PRR's switch to solid trains upgrades **mail service** on New York-Washington run .. p. 12

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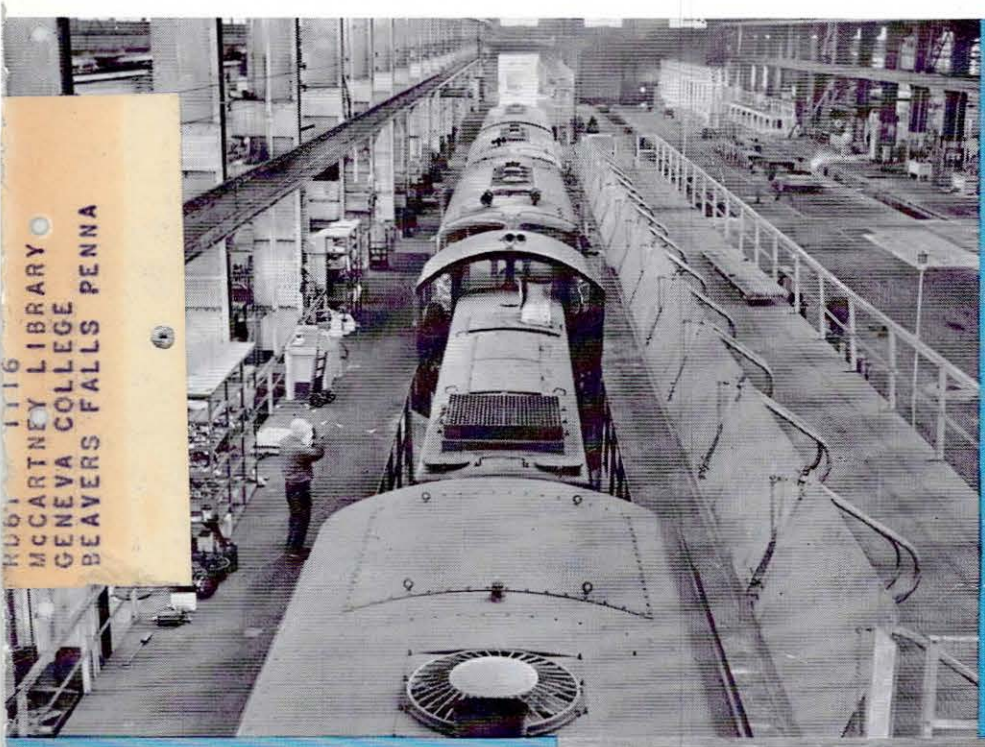

How B&O Cut Downtime On Diesels 50%

New seven-spot production line at Cumberland handles up to 540 units per month
p. 16

Milwaukee Readies New Line Change

Road's $18-million project includes three bridges in 25.2-mile relocation job
p. 18

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RAILWAY AGE

WEEK AT A GLANCE

Aug. 21, 1961 • Vol. 151, No. 8

L&N studies merger with C&EI

The studies were announced after Missouri Pacific disclosed that it has purchased a $1,000,000 "package" of C&EI securities from the estate of a former director of the road ...p. 8

Carriers to fight 'gray area' trucking

Railroads, legitimate truck operators, freight forwarders and shippers have banded together to form the Committee Against Unauthorized Transportation .....p. 9

Examiner sees threat in Plan I bid

ICC Examiner Dishman would reject a trucker's TOFC plan because, he says, it would permit the applicant to bid for traffic which would shun its all-motor services p.10

Operation Speed-Up—PRR upgrades mail service

About 80% of the road's Washington-New York mail volume now moves in solid trains of mail cars. The new set-up has substantially improved passenger-train performance p.12

How the B&O cuts diesel downtime

Out-of-service time for locomotives receiving inspection and repairs at the new Cumberland, Md., diesel shop has been cut 50% by a production line operation p.16

Milwaukee readies new line change

The $18-million project, near Mobridge, S.D. is scheduled to be finished by spring of 1962. It includes a 2,349-ft bridge over the Missouri river p.18

Los Angeles may revive rail rapid transit

A $192,000,000, 22.7-mile line has been proposed as the first segment of a 150-route-mile system. But financing problems will be hard to overcome p.32

Departments

Freight Carloadings 31
Letters from Readers 11
New Equipment 31
New Products Report 29
Operation Speed-Up 12
People in the News 35
Railroading After Hours 28
Railway Market 31
Revenues and Expenses 22
Supply Trade 35
The Action Page 38
Watching Washington 10
You Ought to Know 36

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RAILWAY AGE

WEEK AT A GLANCE

The Action Page—Clear path to RR health

Railroads are not sick, they are being poisoned—by kindly, well-meaning Uncle Sam. The solution is to get the government out of the transportation business p.38

Short and Significant

2,452 new freight cars . . .

were ordered in July, twice the June figure of 1,214. But the backlog of cars on order remains low—10,644 on Aug. 1 compared with 26,658 a year ago.

Bessemer & Lake Erie will reopen . . .

its Greenville, Pa., shops Sept. 6 for a major gondola-car repair program. Some 160 workers will be recalled. The shops have been closed since May 3.

New consultant on transportation policy matters . . .

to Commerce Secretary Luther H. Hodges is Dr. Gayton E. Germane, professor of transportation and management at Stanford University Graduate School of Business.

A $1,000,000 loan to the Boston & Maine . . .

has been guaranteed by the ICC. The commission turned down B&M's original application for the guaranty last month, but the railroad countered with an offer of additional security.

Unclaimed securities and cash totaling almost $1,000,000 . . .

will belong to the Milwaukee Road next Aug. 16 unless claimed in the meantime. Milwaukee has been holding the assets for unknown security-holders since 1945.

Voting is complete and ballots are being counted . . .

to determine if BRT and ORC&B members want amalgamation of the two unions. Thus far, there's been no indication of the outcome of the vote.

Current Statistics

Operating Revenues	
6 mos., 1961	$4,418,590,326
6 mos., 1960	4,889,904,452
Operating expenses	
6 mos., 1961	3,596,377,961
6 mos., 1960	3,840,346,580
Taxes	
6 mos., 1961	481,996,025
6 mos., 1960	542,719,599
Net railway operating income	
6 mos., 1961	145,968,212
6 mos., 1960	330,650,542
Net income estimated	
6 mos., 1961	60,000,000
6 mos., 1960	238,000,000
Carloadings revenue freight	
31 wks., 1961	16,354,514
31 wks., 1960	18,582,633
Freight cars on order	
Aug. 1, 1961	10,644
Aug. 1, 1960	26,658
Freight cars delivered	
7 mos., 1961	20,011
7 mos., 1960	35,295

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&N Studies Merger with C&EI

The Story at a Glance: A C&EI ıitor, Missouri Pacific, now holds trump card in any future C&EI ger dealings. By purchasing a kage" of C&EI securities from the e of a former C&EI director, MP ed up virtual power to block any er involving Chicago-based C&EI. P's purchase of C&EI securities touch off a family squabble nd the Midwest merger table since sville & Nashville wants C&EI as artner, Illinois Central wants to rol L&N and MP says it is thinking t joining IC.

n open secret for many months, -C&EI merger studies became an unced fact after Missouri Pacific be known that it had purchased ostantial block of C&EI securities rotect its interest."

&N President W. H. Kendall says 'studies of the possibility of merger C&EI are continuing, but no con- ons have been reached." However, observers believe that a firm proposal is imminent.

From merger-minded C&EI President David O. Mathews came only the comment: "We have received no offer."

For L&N, with 5,683 miles of road stretching from St. Louis and Cincinnati to the Gulf of Mexico, a partnership with C&EI would mean entrance to Chicago and make possible an L&N link between the Great Lakes and the Gulf. L&N connects with C&EI in three states: at St. Louis, Mo., Mt. Vernon, Ill., and Evansville and Mt. Vernon, Ind.

L&N aspirations to join C&EI have become more vulnerable since Missouri Pacific decided to sit in on the game. MP tersely announced on August 9 that it had "acquired a block of Chicago & Eastern Illinois Railroad securities" after learning they had been offered to three other railroads. The million-dollar package, purchased from the estate of former C&EI director Jack R. Hammack, included $210,000 of Convertible General Mortgage 5% bonds, $248,000 of Income Debentures, 22,600 shares of Class A and 48,604 shares of Common stock.

C&EI's Class A stock, issued under a reorganization plan following a depression-era receivership, has the same voting rights as the Common, with one exception—when voted as a class, one third of the outstanding shares plus one share can block a merger. Mr. Hammack's holdings—now MP holdings—represent over thirty per cent of the outstanding Class A.

Two attempts have been made to retire the Class A and remove the restrictions placed on C&EI management in its merger dealings as a result of this charter peculiarity. Contingent interest Income Debenture 5s were issued in 1954 to retire some 80% of the then outstanding Class A stock—307,600 shares were retired on a basis of 25 shares per $1,000 bond.

Late in 1959, stockholders approved and the Interstate Commerce Commission gave its blessing to a C&EI plan to retire the remaining 75,000-plus shares of Class A. The proposal: one $2 Class A $40 par share (plus accumulated, unpaid dividends) in exchange for $40 market value of common. The offer contemplated a minimum $17.25 per share of common, now selling at a near $10 on NYSE. Still outstanding are about 75,000 Class A shares.

In the past, several roads have looked longingly at the strategically located C&EI properties—865 miles of railroad in Illinois, Indiana and Missouri. C&EI's principal north-south line, connecting with L&N at Evansville, forms a complete system connecting Chicago with the South. C&EI's St. Louis line connects with all southwestern carriers serving the St. Louis gateway. A secondary line from a point on the St. Louis branch south to Thebes and Chaffee, Ill., bypasses the St. Louis interchange and forms part of the shortest route between Chicago and the Ft. Worth-Dallas area. C&EI connects with both IC and MP at Thebes and connects with Frisco at Chaffee.

The much sought-after C&EI has not been bashful about seeking a partner. C&EI President Mathews let it be known early in the game that he wanted

(*Continued on page 34*)

onflicting Hearings May Spread Witnesses Thin

Two merger hearings set to run concurrently will make it impossible r New York Central to fully protect its rights in matters that are "vital" its continued existence. That, at least, is the contention of NYC protesting the Interstate Commerce Commission's announced plans r resumption of one merger hearing and opening of another.

Sept. 11 is the date set for resumption of the competing NYC and &O applications for control of the Baltimore & Ohio. Sept. 27 is the te for opening of hearings on the proposal of the Norfolk & Western merge with the Nickel Plate and lease the Wabash. Both hearings volve matters vital to Central's continued existence, says NYC General licitor Robert Brooks, adding: "Because of the nature of these proedings, Central of necessity must be represented by the same law and tness personnel. The Commission should also recognize that others e in the same position. . . .

"As a minimum, NYC requires at least 30 days between the conusion of one hearing and the commencement of another. We protest e present hearing schedules . . . as unreasonable. . . ."

Mr. Brooks cited in support of the Central petition seven-day weeks d working days of 14 and 15 hours for the NYC staff assigned to the arings. "This position makes it impossible for New York Central and her intervenors to fully protect their rights," he said, "a position which the direct result of the Commission's refusal to consolidate these oceedings."

Non-Operating Unions Map Demands

Labor news is edging into the spotlight once again, as summer fades into autumn. Developments are coming on two fronts:

- From the non-operating unions—a wage movement.
- From the Presidential commission investigating the work rules controversy—a quick wrapup of hearings and, perhaps, a report by year's end.

Just one year ago today—Aug. 21, 1960—the non-ops and the carriers reached agreement on their current contract, which gave the employees a 5-cent-an-hour increase retroactive to July 1, 1960, and fringe benefit improvements of about equal value effective March 1, 1961. The contract provides that no changes in wage rates can become effective before Nov. 1, 1961, but it seems likely that the non-ops will serve notices well in advance of the Nov. 1 date. One source confirmed that the unions have discussed the situation at a number of meetings and hinted that the organizations "may be about ready to serve notices."

There's no indication that the operating unions plan any new demands now, with the work rules dispute headed into the last stages of commission study. Hearings will be resumed Aug. 28, and formal procedures may be completed by Oct. 1.

Carriers to Fight 'Gray Area' Trucking

► **The Story at a Glance: A crackdown on illegal—so-called "gray area"—trucking is the objective of CAUT, a newly-organized Committee Against Unauthorized Transportation.**

To end such unlawful transport activities as the hauling of well-iced bathtubs disguised as fresh vegetables, railroads, legitimate truckers, shippers, forwarders and regulators have banded together in a strange-bedfellow Committee Against Unauthorized Transportation.

CAUT's activities, designed "to foster and encourage . . . . elimination of unauthorized transportation without impeding legitimate operations of private and for-hire carriers," involve a three-point program:

- To educate shippers and other interested groups about the adverse effects of unauthorized transportation and to encourage increased research in this important area;
- To encourage stricter and more effective enforcement of existing laws concerning unauthorized transportation; and
- To analyze additional steps to promote enforcement and to combat in other ways unauthorized transport operations.

Groups which have joined forces to carry out that program include:

Railroads, represented by the AAR, the three major regional railroad associations, and the American Short Line Railroad Association.

Legitimate truck operators, represented by, among other organizations, the American Trucking Associations and its common and private carrier conferences.

Freight forwarders, represented by the Freight Forwarders Institute.

Shippers, represented by the National Industrial Traffic League and a number of regional or specialized groups.

The ICC, the Department of Commerce and the National Conference of State Transportation Specialists will act as "observers"; while the Transportation Association of America will serve as administrator for CAUT. Copies of an 8-page booklet outlining the illegal trucking problem, and what the new committee hopes to do about it, may be obtained from TAA at 1710 H St., N. W., Washington 6, D.C.

"Shady truck operators," this booklet points out, "are steadily contributing to the already burdensome woes of the nation's regulated for-hire transportation system, as well as harming bona fide exempt and private carriers.

"The consensus of informed observers is that the problem could be effectively licked by enactment of state legislation, in every state, requiring registration of all trucks with interstate operating rights passing through the state. Such legislation would mean that enforcement agents of each state through which an interstate trucker passes would be empowered to inspect the truck's certification and take speedy judicial and punitive action at the state level if deserved. Some states, such as Arkansas, Florida and Illinois, already have such requirements, and are doing an effective enforcement job."

One out of every four trucks, CAUT estimates, is operating unlawfully, in carriage of commodities ranging from potato chips to house trailers, and including such items as sugar, salt, meat, coal, canned goods, beer, foreign automobiles and iron, steel and petroleum products.

Most common practice, estimated by the ICC to account for 45% of all illegal operations, is shipper lease of a vehicle and driver from one entity, where the shipper does not have complete control of the transportation involved; or lease of a vehicle and driver from separate entities in concert with each other.

"Buy-and-sell" operations, where a shipper or trucker purchases goods at origin and sells them at destination, deriving a profit from the carriage performed, accounts for 21% of illegal trucking.

Another 12% consists of unlawful operations by carriers exempt from regulation under the Interstate Commerce Act.

The remaining 22% of unlawful trucking, the ICC says, is attributable to "gypsies," who transport regulated commodities without certificates or permits; to intercity haulers who operate beyond the commodity or territorial scope of their operating authority; to local cartage concerns which go outside of their specified metropolitan areas; or to so-called brokers, who participate in furnishing loads to carriers under a number of illegal arrangements.

Examiner Sees Threat in Plan I Bid

The ICC has been advised that it should prevent truckers from using Plan I piggyback services to overcome disadvantages of circuitous highway routes and thus bid for traffic which would shun their all-motor services. The advice came in Examiner L. H. Dishman's proposed report on suspended tariffs whereby Strickland Transportation Company and Strickland Motor Freight Lines seek to use Plan I services of the Illinois Central and Missouri Pacific.

Plan I involves substitution of trailer-on-flat-car service for over-the-highway service of motor carriers. The motor carrier publishes its rate for the shipper and has contractual arrangements with the railroad for the TOFC movement.

The Plan I service in issue in the case, I&S No. 13964, would carry Strickland's trailers between Chicago, East St. Louis, St. Louis and Little Rock, on the one hand, and New Orleans, La., on the other. Strickland's truck competitors are protestants. They contend that approval of the tariffs would amount to giving new operating rights to Strickland who, because of circuity, does not now have a feasible highway route between the points involved. In relation to the rail routes, the Strickland routes involve circuity ranging from 48 to 76%.

Leading up to his recommendation that the suspended tariffs be condemned, Examiner Dishman found it "apparent" that clearance of them would put Strickland in competition "for traffic in which it does not now participate." In the examiner's opinion, Plan I arrangements should be approved only if the time in transit over the substituted route is not materially different from that over the highway—and "where the proponent motor carrier has been transporting traffic between the points involved and over the motor routes connecting them."

In other words, "substituted service should bear some reasonable resemblance and relationship to that for which it is substituted," the proposed report added. It continued:

"As Strickland has not shown any substantial volume of traffic which it has moved between the affected points . . . it is apparent that the proposed tariffs would create new competition for the protestants."

WATCHING WASHINGTON WITH WALTER TAFT

• **THE ICC WARNS** that enactment of the "Hoffa Bill" to emasculate the 1958 Transportation Act's rate-freedom provision could bring "a long period of chaotic uncertainty in rate-making." The warning was part of a presentation in opposition to the bill which Commission Chairman Hutchinson has made to the Senate Commerce Committee.

THE "HOFFA" LABEL has been attached to the bill because of the enthusiastic support it has from James R. Hoffa, president of the International Brotherhood of Teamsters. It is also supported by the trucking and water carrier industries.

THE ICC PRESENTATION closed the Senate committee's hearing on the bill, and committee clearance of the proposed legislation is not expected this year. So the battle of this Congress' first session seems to have been won by the railroads, their employees, shippers, including the National Industrial Traffic League, and other defenders of rate freedom. But the war is still on, since the bill will remain alive. That's because the same Congress convenes in 1962—and 1962 will be an election year.

GENERALLY, the bill, S.1197, would add to the Interstate Commerce Act's Section 15(a)(3), the rate-freedom section, several restrictions on ICC approvals of competitive rates. Commission consideration of such rates would then have to include specific consideration of their effects on the earnings of carriers proposing them and on "a lawful rate structure," their tendency "to cause an unjust burden upon other traffic," and the competitive necessity for them.

WITH SUPPORTING CITATIONS from its decisions, the Commission pointed up for the Senate committee the fact that it now considers these factors. It then went on to express its belief that enactment of the bill "would give rise to an untold number of views and expressions" as to the weight which should be given to each of the listed factors, the relation of each to the other—"and which factor or group of factors should govern in deciding a case." Thus the Commission's feeling that the effect of enactment would be "encouragement of frequent and extensive litigation."

• **NEW HD TANK CAR** of Union Tank Car Co. has finally won ICC clearance. Reversing its Division 3, the Commission amended its safety-appliance standards to permit use of the new car which embodies several innovations, including elimination of side running boards.

THIS OMISSION became a major issue in the case in which clearance of the car was opposed by unions representing railroad employees. Union Tank met the issue by providing a side railing which trainmen can grasp to protect themselves when bleeding the air to release sticking brakes. The evidence indicated that this is the principal use now made of side running boards, and the Commission concluded that the railings will be easier to grasp.

UNDER PRESENT OPERATING CONDITIONS, trainmen seldom traverse freight cars from end to end, the Commission found. It was also "impressed" by the fact that nearly half of the freight cars (hoppers, gondolas and flats) are not equipped with running boards.

Letters From Readers

Should Shippers Complain?

Livingston, Mont.

TO THE EDITOR:

I have just read your June 26 "Action Page" with interest—and incredulity that men in your position in railroading could be so far out of touch of the real situation on the rails today.

You ask: "Why do shippers complain so little?" The shippers I have been in contact with the past 25 years have done nothing else to me!

Shippers have complained to local officials so many times with no apparent correction of their complaints that they have given up in disgust and gone to someone who was interested in their problems. I have found that unless a shipper knows *whom* to call in the highest echelon of management, he might as well save his breath, as next week he, the shipper, will be facing the same problem he was complaining about last week to local officials. . . .

If you or top management were interested enough in the shippers on the rails, you would contact shippers personally in traffic surveys before contacting division management. If railroads would show sincere appreciation of the shippers' complaints and then provide the service they desire on each succeeding shipment, as well as the first shipment, the truckers could not have made the inroads they have made into the railroads' business. Our shippers have too much to do to fight with the railroads to provide the service to enable their customers to stay in business. Shippers can't keep their inventories low—as long as one carload takes four days en route and the next one 14.

Come out of that concrete jungle you are in and do the job a newsman is supposed to do and you will be doing the railroads a real service. If they continue slapping their customers in the face there will be little need for your periodical and that roundhouse foreman who told me 10 years ago that I was working for a decadent industry will be right.

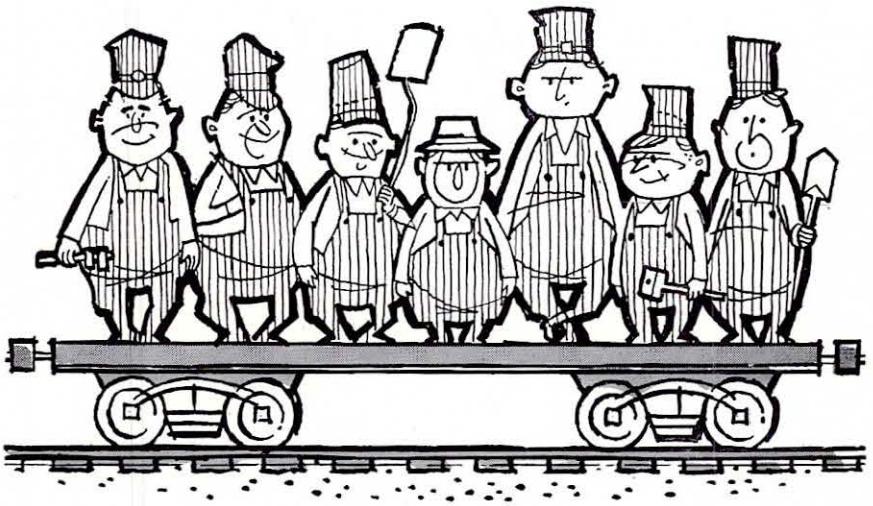
When railroads give the word "service" something besides lip service, everyone, even employees, will want to help.

W. R. McGee
NP Conductor

[We did not say that shippers do not complain, to the railroads, about the inadequacies of railroad service. Our suggestion to shippers was, instead, that they complain more frequently and insistently about government policies which impoverish the railroads, and thereby prevent railroads from offering the quality and economy of service they otherwise would.—Editor]

CampCars

CUT PORTAL-TO-PORTAL TRAVEL COSTS



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Why run a costly commuter service for work crews? House anywhere from 2 to 50 men efficiently, comfortably in CampCars. Avoid the high cost of hotels and the headaches of on-track housing. CampCars will take the roughest highway or cross-country travel, are available in several floor plans. And the pay-off is this — *they can pay for themselves in approximately one year!*

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INTERNATIONAL CAR DIVISION

A Subsidiary of Ryder System, Inc.

RR Separates Mail and People

out 80% of the Pennsylvania's volume between Washington and York, and the large centers of lation between them, now moves olid trains of mail cars. These , Numbers 190 through 195, carry assengers, although they are classed ssenger trains and operate on pas- r train schedules.

hese trains are must trains for on- performance," says Pennsylvania's rintendent, Passenger Stations, York Region, Herman Flait. y're just as important for on-time rmance as the 'Broadway Limited' he Post Office Department insists —and our company wants it that too."

ains in the 190 series carry a max- n of 30 cars of mail and express. nally they include both RPO and ing mail storage cars as well as storage mail and express cars. are scheduled, though not for all at all stations, at Newark, Tren- North Philadelphia, 30th St. adelphia), Wilmington and Balti- . Anywhere from five to 18 min- working time is scheduled at a n.

When a train absorbs its working at a station," Mr. Flait remarks, as to leave, whether all the mail aded or not." On the other hand, n stops are carefully planned to enough time—but no more—for ail to be handled. Trains in the eries are permitted to leave ahead eir scheduled departure time, but may not leave ahead of scheduled al time.

e Post Office Department likes the mail-train schedules. John E. er, director of mail transportation e Post Office in Washington, says, re were some headaches in the ning, but once these difficulties eliminated, our mail is moving far r than ever. These solid trains are luled exactly as we wish, without ence to the movement of pas- rs. They run on time, or better, we are quite satisfied with the d performance."

mes B. Arnsberger, distribution raffic manager of the Washington on of the Post Office, adds: "We the plan so much that we wish it l be used to the same extent by other railroads, but in most in- es there is not enough volume to ant solid trains on the other lines." arles A. Magill, superintendent of mail service for the Pennsylvania, echoes the satisfaction of the postal officials, and PRR's general manager of passenger sales, Earle R. Comer, notes that PRR's passengers have also benefited.

"We are constantly studying ways to improve our service," Mr. Comer says. "An important forward step was taken when the passenger-carrying trains between Washington and New York were relieved of three-quarters of their mail handling chores. They immediately improved their on-time performance, and passengers have continued to enjoy better service."

Mail-Train Schedules

Typical of the performance of the 190 series trains, Number 191, New York to Washington, arrived in Washington the other day nine minutes ahead of schedule, after stops at Newark, North Philadelphia, 30th St. (Philadelphia), Wilmington and Baltimore. On that trip, 191 was carrying 18 cars. Other trains are longer. Train Number 190, on the same day, left Washington with 29 cars. Train 191's schedule, daily except holidays, calls for departure from Pennsylvania Station, New York, at 12:20 a.m., EDT, and arrival at Union Station, Washington, at 5:10 a.m., EDT. The train includes two RPO cars, an open-mail (working) storage car and a baggage car. The rest are solid storage mail and express cars.

Train Number 193, with two RPO cars, an open storage car, a baggage car and solid storage mail and express cars, is scheduled out of New York at 1:05 a.m., EDT, and into Washington at 7:30 a.m. Number 193 operates daily.

Train Number 195, daily except Sundays and holidays, leaves New York at 11:10 p.m. Arrival in Washington is at 4:05 a.m. The consist is two RPO cars, one open storage car, one baggage car and solid storage mail and express cars.

Northbound, Train 190 leaves Washington daily at 3:00 a.m., EDT, and arrives New York at 7:45 a.m. It carries two RPO cars, a working mail storage car, a baggage car, and storage mail and express cars.

Number 192, daily except Saturdays and holidays, leaves Washington at 6:10 p.m. for arrival in New York at 10:35 p.m. This train has two RPO cars, a sealed baggage car and storage mail.

Train 194 leaves Washington at 11:00 p.m., daily except Saturdays and holidays, for a New York arrival time of 4:05 a.m. This train carries two RPO cars, one open mail storage car (for registered mails only), a baggage car and storage mail.

As the 190 trains arrive at stations, they are met by station baggage men with trucks spotted for the cars that are to be worked. Mail is unloaded from the cars into the trucks and loaded from the trucks into the cars with a minimum of delay. Work forces are established at whatever size is necessary to get the train out on schedule.

Eighty per cent of Washington-New York mail moves in the 190 series trains. The remaining 20% is handled, two or three cars at a time, in regularly scheduled passenger service. With most of the mail moving in the special trains of the 190 series, there are fewer problems connected with mail stops on the other passenger trains . . . and so, better service.

'We are constantly studying ways to improve our service. An important forward step was taken when passenger-carrying trains between Washington and New York were relieved of three-quarters of their mail-handling chores. They immediately improved their on-time performance, and passengers have continued to enjoy better service.'

—E. R. Comer, general manager—passenger sales, PRR

MAKE A NOTE
OF THIS

important name change—

Texaco Car Oil 1960 HD
is now

TEXACO JOURNALTEX HD

Only the name has changed, to make it more descriptive. For specific examples of how Texaco Journaltex HD can help you reduce hotbox setoffs,

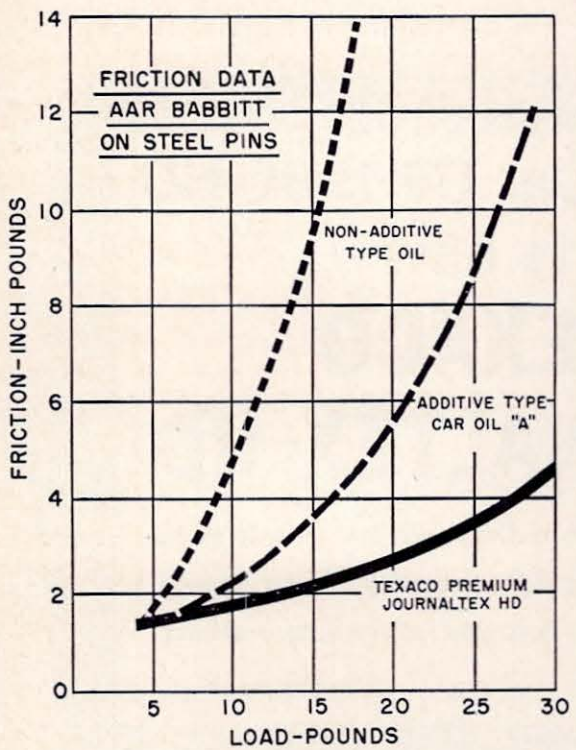
turn the page . . .

PREMIUM OR NON-ADDITIVE TYPE OIL? | Premium Texaco

Three reasons why new can help reduce hot

60% less friction

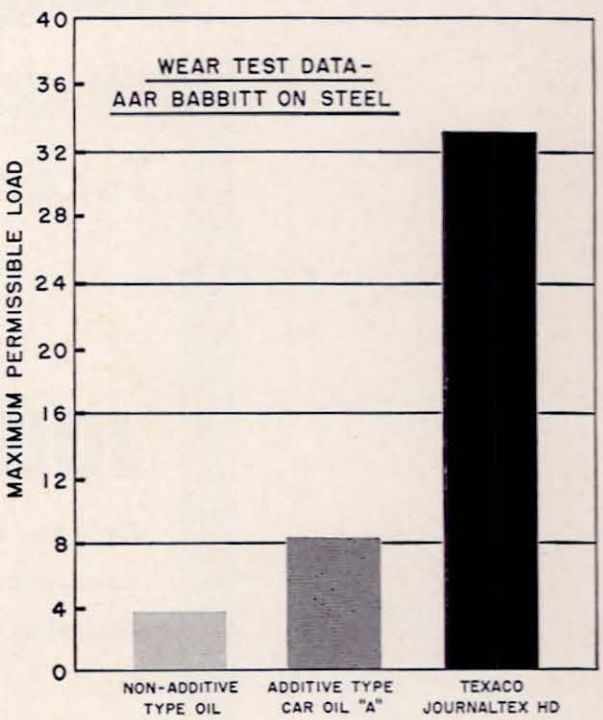
Less friction means lower operating temperatures . . . an important reason why Texaco Journaltex HD can help cut hot boxes as much as 40%. A special additive gives Journaltex HD a 60% lower friction coefficient under heavy load than most non-additive type oils.



Lower friction coefficient of Texaco Journaltex HD graphically illustrated. Journaltex HD's ability to resist friction becomes even more pronounced as load-pounds are increased. The uniform quality of Texaco Journaltex HD assures consistently reliable performance.

8 times greater load-carrying capacity

Metal-to-metal contact between journal and bearing, the result of localized high bearing pressure, is a common beginning of hot boxes. Actual tests at Texaco's Research Center prove that Journaltex HD retains its protective oil film at a pressure *8 times greater* than the failure point of a non-additive type oil.



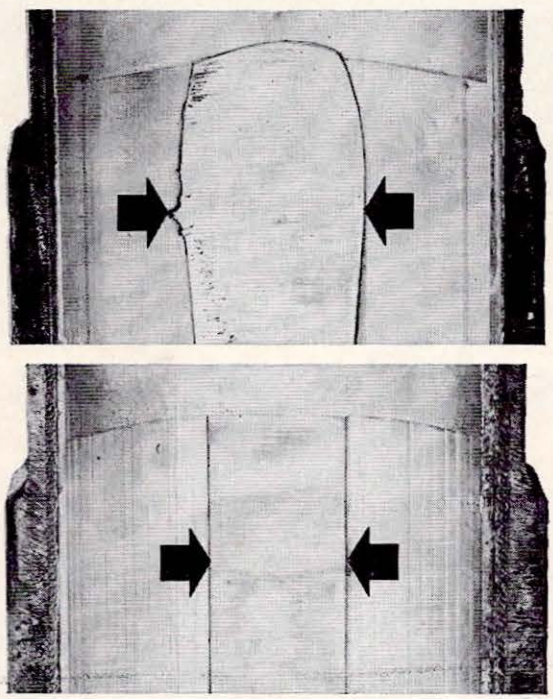
Greater load-carrying capacity of Texaco Journaltex HD graphically illustrated. Journaltex HD retains its protective oil film at a laboratory pressure much greater than would be encountered under average operating conditions.

Journaltex HD can actually prove i... ...nomical

Texaco Journa...ex HD boxes as much ...s 40%

Minimum bearing metal displacement

Scored, worn, and misaligned bearings are also a common cause of hot boxes. Texaco Journaltex HD has a built-in characteristic that hinders gross bearing metal removal. Instead, Journaltex HD redistributes minute amounts of babbit... *actually assists in reseating the bearing.*



Smoother bearings with Texaco Journaltex HD. Contact areas of above journal bearings were reduced to 9 sq. inches and subjected to identical tests. Serrated edges (arrows) on top bearing, run on non-additive type oil, indicate considerable metal displacement. Straight edges (arrows) on lower bearing, run on Texaco Journaltex HD, indicate almost no metal displacement.

Savings can reduce car oil costs by 22c a gallon

Five major roads reported up to 40% decreases in hot boxes after switching to Texaco Journaltex HD. Savings because of reduced hot boxes can more than offset the slight additional cost of premium Texaco Journaltex HD.

For example: Suppose a road using 200,000 gallons of car oil yearly reduces hot boxes from 1,100 to 660 by switching to Journaltex HD in all journal boxes—using both summer and winter grades. A minimum saving of $100 on each eliminated hot box would net this road $44,000. This sum, if applied to the purchase price of the car oil, would reduce its cost by 22¢ a gallon. Therefore, in real terms, the per-gallon-price of Texaco Journaltex HD is actually about 16¢ less than the price previously paid for the non-additive type oil.

For full details on how Texaco Journaltex HD and unmatched service can mean fewer hot boxes for your road, call the nearest Texaco Railway Sales Office in New York, Chicago, San Francisco, St. Paul, St. Louis or Atlanta. Or write:

Texaco Inc., *Railway Sales Division,* 135 East 42nd Street, New York 17, N. Y.

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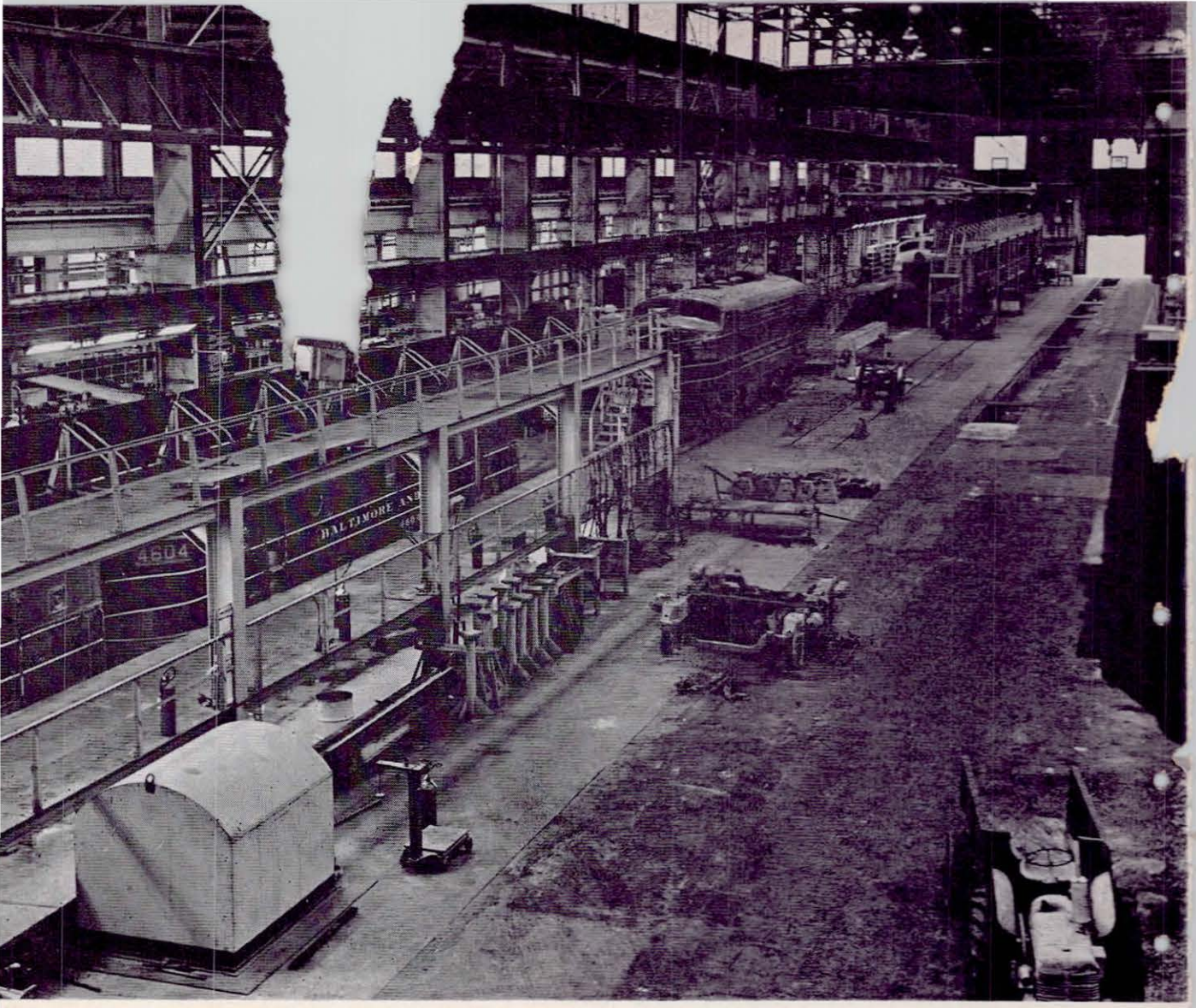


ESSIVE LINE has been established along one of through tracks in former Cumberland back shop.

ow B&O Cuts Diesel Downtime

he Story at a Glance: Out-of-time for Baltimore & Ohio loco- receiving inspection and re- t the road's new Cumberland, iesel shop has been reduced by ompared with maintenance time sly required. This has been the pectacular result produced by rogressive-line" facility which is erforming ICC inspections and ive maintenance on approxi- half the railroad's motive power.

more & Ohio diesels, including n need of heavy repair, now nto and out of Cumberland shop 16 hr, in contrast to the 32-hr llotment which prevailed when on and maintenance work was smaller shops at various points system. This sets a new record for the B&O, increasing materially the number of locomotives available for service.

Since August 1, the seven-spot facility has been responsible for monthly work on 540 units, which include Alco road freight and yard units, and General Motors road freight and road-switcher units. The B&O motive-power department has successfully solved the problems of maintaining several types of units produced by two builders on the same progressive maintenance line. This is done without changing the working time at the spots, with almost no changes in manpower assignments and with no attempt to classify units so that only one type, or those produced by one builder, would be on the line at any given time. Instead, units go through the seven spots as they are received in Cumberland and each unit remains at each individual spot for 70 min.

The first phase of the program was initiated on March 15 when 261 units were assigned to Cumberland for progressive work on a single-shift, seven-day-per-week basis. Addition of a second shift on May 1 brought the assignment to 375 units. According to F. B. Rykoskey, chief mechanical officer, the centralization of diesel repairs on a progressive line basis is the most significant advance in the B&O motive power department since dieselization. This system has proved its ability "to give better maintenance quicker, at more economical cost."

Cumberland is virtually the "hub" of the B&O, being the point where the Chicago and St. Louis lines diverge and

from which eastward trains operate to Washington, or to Baltimore, Philadelphia, and New York. The normal locomotive dispatchings at Cumberland average 115 to 120 units daily. Since this is the largest terminal on the B&O, the regular shopping of locomotives presents no problem. The most modern classification yard on the B&O has been constructed at Cumberland, and yard locomotives from this facility are also handled in the Cumberland shop.

To keep locomotives moving in and out of Cumberland shop at the steady pace required by the progressive maintenance system makes essential very close coordination between the B&O's motive power and transportation departments. Because of Cumberland's strategic location, it is possible for all units to be worked into the point for period maintenance. Almost no deadheading or movement of light locomotives has been necessary since the new system went into operation.

The shop, a portion of the former Cumberland back shop, is 505 ft long. Spots 2 through 6 are within this building. Spot 1, for preliminary inspection, is just outside the building where units can be given initial checks with engines running. Spot 7, also outside, is adjacent to the door through which units pass as they leave the shop building.

Sequence of Operations

At the seven work stations, the following operations are performed:

Spot 1—Inbound running inspection.

Spot 2—ICC inspection and examination of crankcases and air boxes and mechanical running repairs.

Spot 3—Truck repairs, electrical and mechanical running repairs, and lubrication.

Spot 4—Coupler, draft-gear and carbody work, plus drop-pit work, if necessary.

Spot 5—Replacement of engine and carbody air filters and electrical and mechanical running repairs.

Spot 6—Final ICC inspection, both electrical and mechanical.

Spot 7—Thorough interior and exterior cleaning of locomotive. While these are general descriptions of the jobs at each work station, there are some variations between the work done on different types of units. However, the handling of Alco and General Motors units presents no unusual manpower, facility, or tooling problems. All moving of units along the line is done by the unit coming to the No. 1 position.

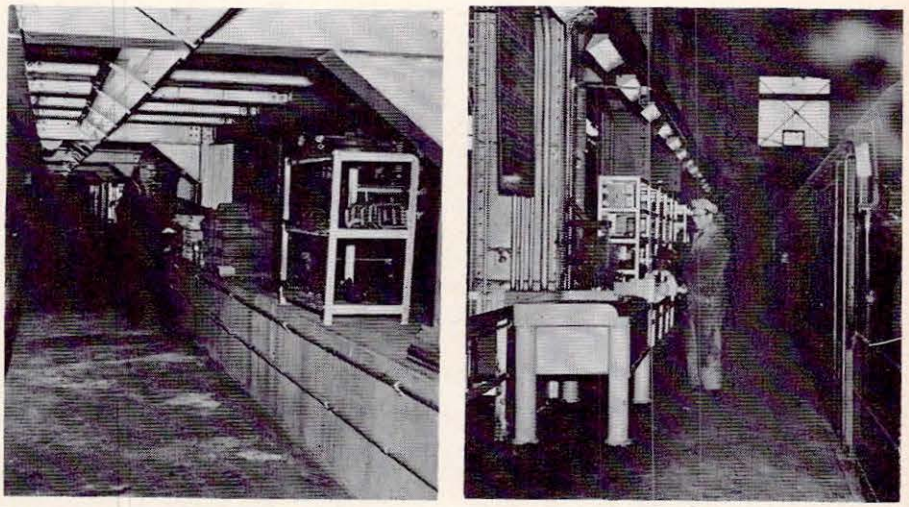
In addition to the preventive maintenance work and monthly ICC inspection which all units receive when they come to the shop, the quarterly, semi-annual, and annual ICC inspections are made as units pass along
It has been possible also to
heavier and emergency repairs
interfering with the 70-min w
tervals. The pair of overhead cr
in the shop can be used for hanc
roof hatches, compressors, and sim
items. The drop pit in the line ma
possible not only the replacement
wheel sets, but also swing hangers
coil or elliptic truck springs.

Along with construction of p
forms and installation of new equ
ment in the shop, and the shelter at the Spot 1 position outside, a work area was established where components removed on a routine or emergency basis could be cleaned, rebuilt, or repaired to make them ready for reuse. This area is staffed by a group known as the "support force" which is assigned to work on the progressive line when a unit is found to require emergency repairs, or when one is due for semi-annual or annual ICC inspection. When it is impossible to complete an emergency repair on the line, it is "set back" on another track in the shop and completed by the support gang.

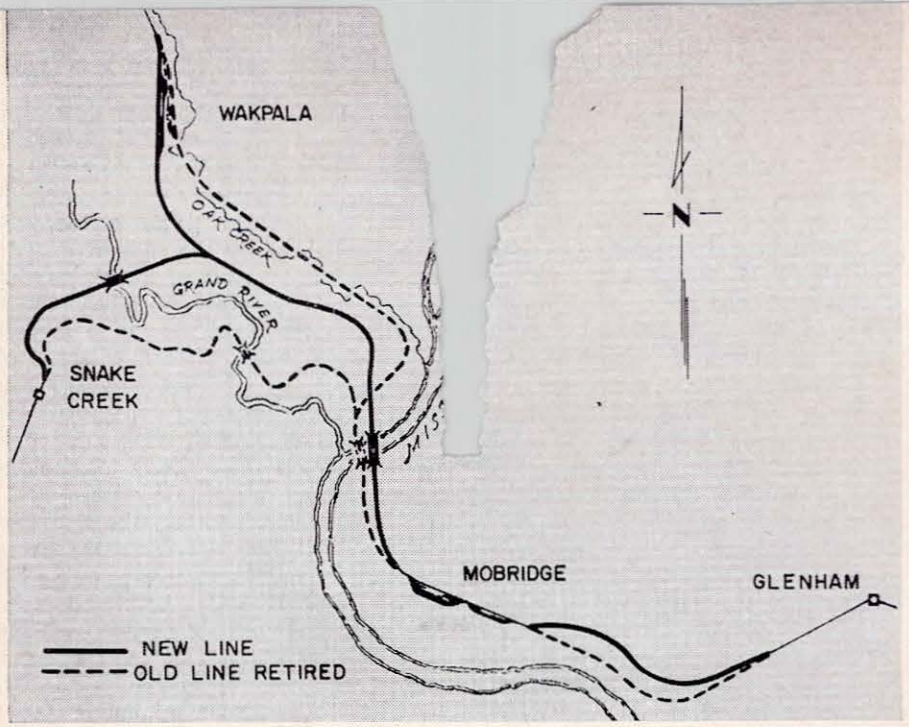
Since the opening of the shop, additional improvements have been made, including the installation of a modern talk-back speaker system, enlarged oil pump facilities for handling gear grease and journal-box oil, and a 500-gal tank for supplying cleaning solution to pressure guns for washing locomotives prior to their return to service.

The regular force on the line consists of 22 men covering the seven work stations. Exhaustive planning has made it possible for the varied maintenance jobs to be completed without interference. By placing tools and materials at work sites, non-productive time is reduced to a minimum.

TWO-LEVEL operations are the practice at four of the five spots inside the shop. Locomotives move from position to position at 70-min intervals. Two additional work sites are located outside, adjacent to ends of building.



MATERIAL STOCKS and reels for supplying water and lubricants are located on the two levels so that there is a minimum of non-productive time. Men need rarely leave their work areas to obtain parts or tools for units on line.



LINE CHANGE was necessitated by construction of Oahe dam across the Missouri river about 80 miles downstream from Mobridge, S.D. It involved the relocation of 16.9 miles of the Milwaukee Road's main track between Glenham and Wakpala and 8.3 miles of branch line between the maintrack connection and Snake Creek, plus a portion (not shown) of this same branch line at Promise, S.D.

Milwaukee Readies New Line Change

► **The Story at a Glance: The major portion of a 25.2-mile line relocation of the Milwaukee Road near Mobridge, S.D., has been completed. Started in March 1957, the whole undertaking is expected to be finished by spring of 1962. Outstanding feature of the $18-million project is a new bridge, 2,349 ft long, over the Missouri river.**

Modern standards of railroad construction are exemplified in the 25.2-mile line-relocation project of the Milwaukee Road at Mobridge, S.D. This project, costing $18 million, was tentatively located by aerial surveys. It involved construction of one temporary bridge, and of three major permanent bridges, the important one being a new crossing of the Missouri river, built at a cost of $10 million, including the approach fills. This work is described by Virgil E. Glosup, Milwaukee's assistant vice president, operations, and chief engineer, as "the largest project of its kind ever undertaken by the Milwaukee Road through its long history."

The line relocation was required by the construction of Oahe dam, about six miles upstream from Pierre, S.D., by the U. S. Corps of Engineers. The Oahe Dam and Reservoir project is one of six to be built on the main channel of the Missouri river. Its purposes are to provide flood protection, hydro-electric power and irrigation water; to facilitate downstream navigation; to make water for municipal and industrial use available in 22 towns and cities; to permit fish and wildlife development at 28 locations, and to develop recreational areas. Four similar projects, known as Fort Peck, Garrison, Fort Randall and Gavin's Point reservoirs, already have been completed, and another, at Big Bend reservoir, has been started.

The Oahe dam is the second largest earth dam in the world, being exceeded only by Fort Peck. Its reservoir of 23 million acre-feet storage will impound more than a whole year's average flow of the river and create a lake almost 600 square miles in area. When the reservoir is filled to maximum level, part of the 16.9 miles of the Milwaukee's main track being relocated between Glenham, S.D., and Wakpala will be inundated; track on the old river bridge will be submerged under 20 ft of water. Fingers of the man-made lake also will submerge 8.3 miles of branch line between Moreau Junction and Snake Creek and a short section of the Faith branch at Promise.

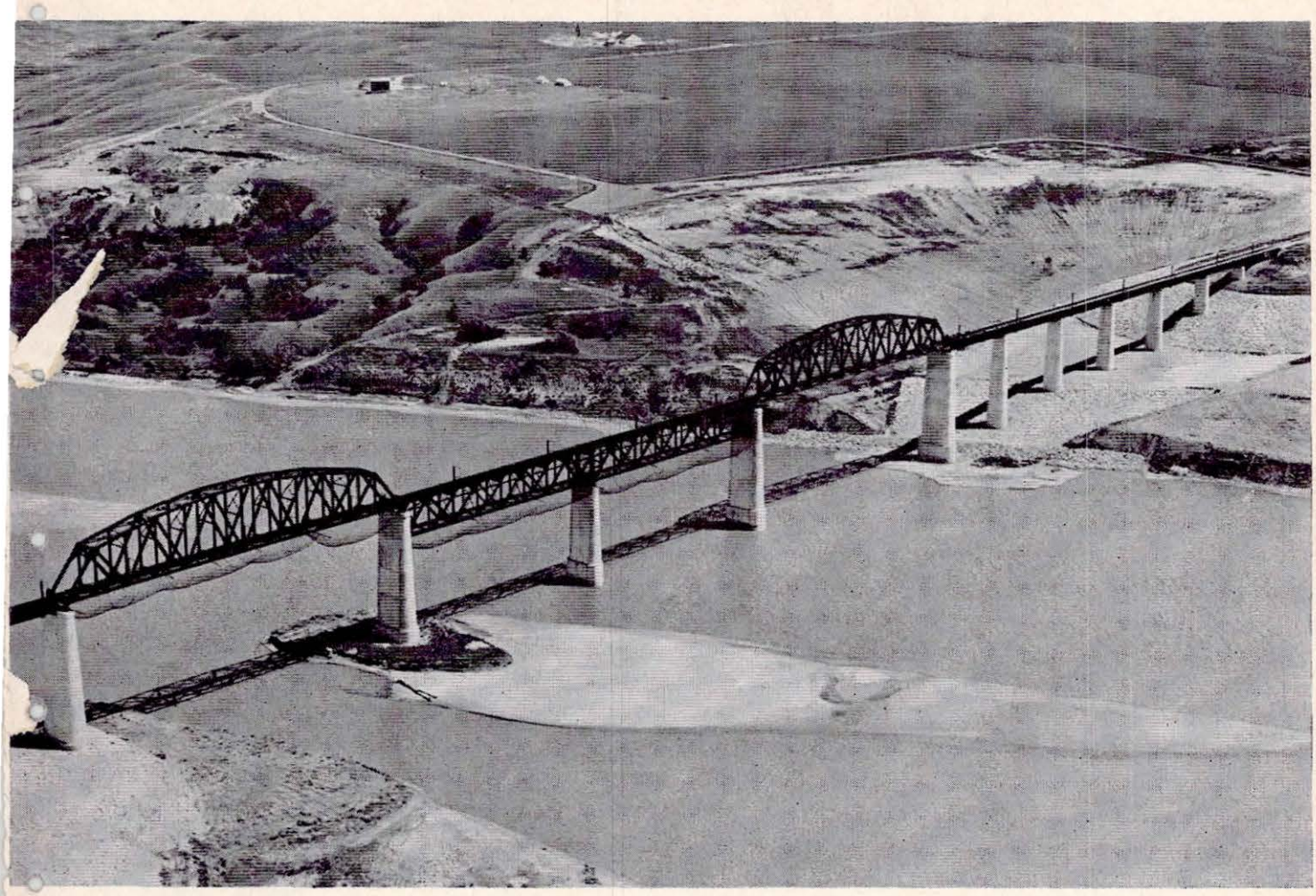
In addition to the new bridge over the Missouri river, another bridge 720 ft long is required to carry the main track over the Grand river, and another over the Moreau river was necessary for the branch line track. A temporary steel viaduct, 400 ft long, was required to carry the new main track over the old main line and siding which are crossed west of the river.

Missouri River Bridge

The outstanding feature of the line-relocation project is the new Missouri river bridge, with its high, rock-protected embankment at the west end. This bridge is 2,349 ft long and places the base of rail 54 ft above normal reservoir level. It was built about 1,500 ft upstream from the existing river bridge. The latter, completed in 1908, included three through-truss spans, each 420 ft long, flanked on the east by a 125 ft deck truss and on the west by 283 ft of steel viaduct and an eight-span pile trestle.

The new river structure, designed for Cooper's E-72 loading, consists of two Warren through-truss spans, each 348 ft long, and two Warren deck-truss spans, each 245 ft long. These are flanked on the east by seven deck-girder spans, totaling 801 ft in length, and on the west by three deck-girder spans, totaling 363 ft. The easterly one of the longer through-truss spans is designed to serve future navigation needs on the river with a vertical clearance of 38 ft. The bridge has a gradient of 0.2% descending west. Its maximum height from streambed to track level is 130 ft. Construction of the substructure began in March 1958 and erection of the bridge proper was completed in May 1960. The line was placed in service in July 1961.

Three of the concrete piers of the bridge were constructed by the open-caisson method. They extend to a depth of as much as 95 ft below ground level, into a dense semi-rock known as the Pierre shale formation. The caissons, one as large as 40 ft by 64 ft, had steel cutting edges on which reinforced-concrete pier bases were constructed in about 10 ft increments. The caissons were sunk into the subsoil until the desired depth had been reached. Excavated material was loaded into buckets and hauled out through open vertical shafts provided in the caisson



NEW BRIDGE, which carries the single-track main line of the Milwaukee Road over the Missouri river, is 2,349 ft long. The through-truss spans are 348 ft long and the deck-truss spans 245 ft long. The long span on the far side of the river is designed for future navigation needs and will provide a vertical clearance of 38 ft above pool level.

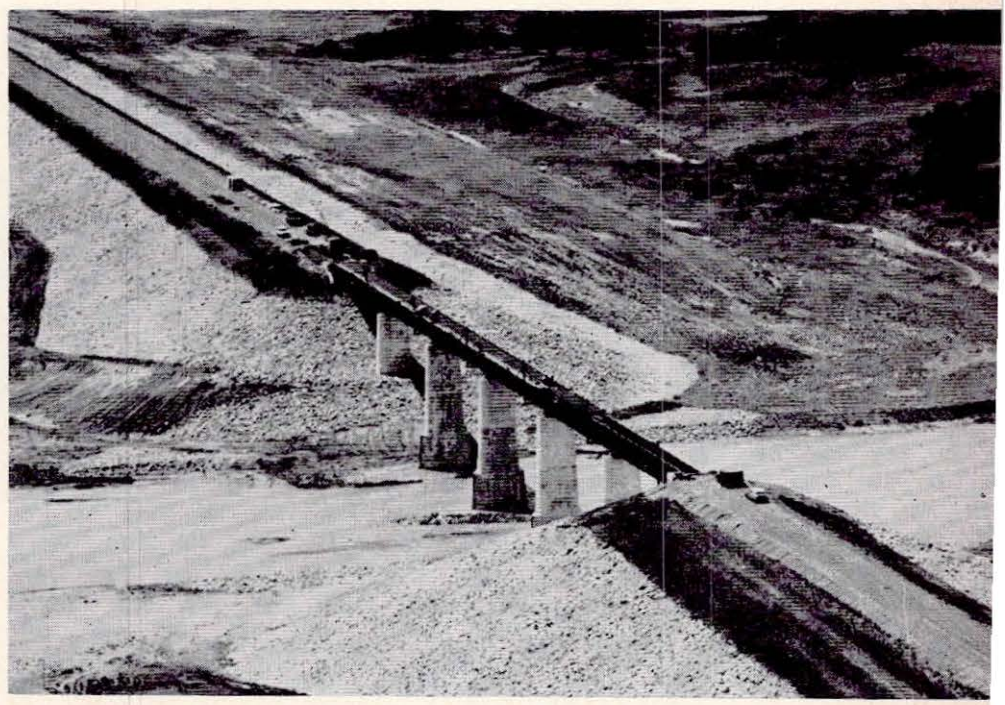
design. Two of the piers are about 200 ft in total height.

When erecting the truss spans, the contractor built steel falsework towers on temporary piling. A barge-mounted crane, having a 200-ft boom and a 70-ft jib, was used to raise the steel. Structural steel used in the bridge proper totaled approximately 4,000 tons; concrete about 37,000 cu yd.

Originally, the studies considered making the river bridge 4,360 ft longer on its west end. However, it was later decided to lay the track here on a high embankment. Dr. R. B. Peck, research professor of foundation engineering, University of Illinois, was the railroad's consultant on design of this embankment, as well as of other fills constructed on the line change. For the Corps of Engineers, the soil mechanics consultant was Woodward, Clyde & Associates, Oakland, Calif. Consultant on design of the Missouri and Grand River bridges was Sverdrup & Parcel.

For the most part, the long embankment was built of alluvial river sand

(Continued on page 25)



GRAND RIVER bridge is comprised of six 120-ft deck-girder spans. Slopes of approach embankments are protected with a 30-in rock blanket which is carried up to a point 7 ft above maximum reservoir pool level.

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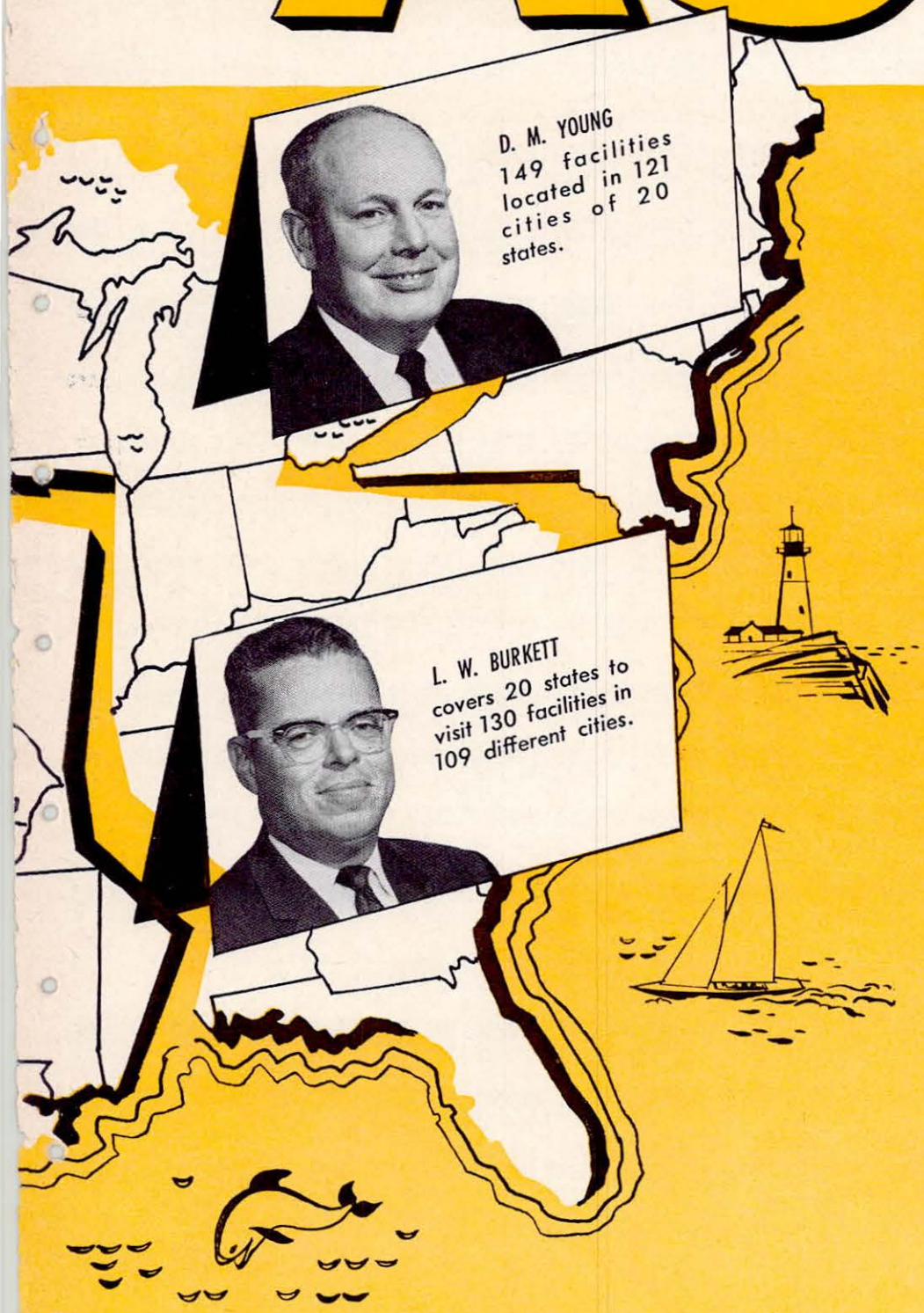
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REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1961

Name of Road		Average mileage operated during period	Operating Revenues				Operating Expenses										Operating ratio		Net from railway operation	Railway tax accruals	Net Railway operating income	
			Freight	Pass.	Total (inc. misc.) 1961	1960	Maint. Way and Structures Total 1961	Total 1960	Deprec and Retirements	Maint. Equipment Total 1961	Total 1960	Deprec. and Retirements	Traffic	Transportation	Total 1961	Total 1960	1961	1960			1961	1960
Akron, Canton & Youngstown	June	171	486	....	499	519	47	61	6	76	73	16	46	155	382	394	76.5	75.9	117	61	28	42
	6 mos.	171	2,569	....	2,627	3,044	295	351	34	454	468	97	254	903	2,182	2,326	83.1	76.4	445	287	97	235
Alabama, Tennessee & orthern	June	214	217	....	219	215	49	55	9	10	7	6	5	77	143	158	65.2	73.4	76	19	10	26
	6 mos.	214	1,288	....	1,311	1,433	293	326	44	77	88	34	28	492	912	1,000	69.6	69.8	398	75	10	46
Atchison, Topeka & Santa Fe	June	12,997	46,925	4,941	56,600	54,697	7,312	7,591	808	9,614	10,506	2,681	1,462	19,253	40,035	41,658	70.7	76.2	16,564	9,740	5,981	4,266
	6 mos.	13,003	247,332	18,945	294,605	310,493	37,506	39,058	4,885	58,962	64,188	15,970	8,648	108,244	227,533	239,746	77.2	77.2	67,073	41,085	21,145	23,276
Atlanta & St. Andrews Bay	June	81	273	....	284	305	23	31	3	26	29	8	8	71	151	164	53.3	53.9	133	59	35	41
	6 mos.	81	1,739	....	1,793	1,907	177	213	21	165	170	48	42	444	978	1,021	54.5	53.6	815	355	218	263
Atlanta & West Point	June	93	218	24	291	300	36	38	8	49	50	15	19	123	247	250	85.2	83.2	43	16	3	9
	6 mos.	93	1,345	116	1,742	1,860	197	250	51	287	304	90	113	739	1,468	1,570	84.2	84.4	275	95	6	25
Western of Alabama	June	133	264	23	326	319	48	43	12	60	58	20	21	132	282	274	84.6	85.8	44	24	17	10
	6 mos.	133	1,618	108	1,944	2,030	255	279	71	331	362	117	127	813	1,663	1,736	85.5	85.5	281	142	96	55
Atlantic Coast Line	June	5,570	10,653	1,066	12,715	13,485	1,468	1,610	169	2,359	2,644	692	526	5,200	10,337	10,711	81.3	79.4	2,378	1,075	594	700
	6 mos.	5,570	68,256	8,211	82,861	87,582	9,389	11,806	1,020	14,887	15,416	4,170	3,184	32,629	65,016	68,285	78.5	78.0	17,844	8,450	5,121	5,927
Baltimore & Ohio	June	5,910	26,470	1,453	30,329	32,972	4,228	3,521	575	5,482	6,030	1,048	890	13,578	26,016	26,627	85.8	80.8	4,313	2,291	—824	1,875
	6 mos.	5,910	141,756	7,492	163,409	201,203	21,571	21,902	2,831	31,500	39,904	6,165	4,919	77,940	146,624	166,274	89.7	82.6	16,785	13,346	—12,946	8,053
Staten Island Rapid Transit	June	29	194	95	295	292	68	61	16	38	45	2	2	155	293	293	99.4	100.1	2	51	—78	—71
	6 mos.	29	978	572	1,606	1,617	350	347	75	255	281	8	12	939	1,733	1,749	107.9	108.1	—127	312	—594	—544
Bangor & Aroostook	June	595	753	17	821	719	184	130	20	302	271	109	27	316	90$	787	109.7	109.5	—80	86	75	101
	6 mos.	595	7,518	109	7,935	8,276	1,729	2,096	121	1,772	1,656	654	175	2,335	6,529	6,806	82.3	82.2	1,406	895	976	1,323
Bessemer & Lake Erie	June	203	1,440	....	1,500	2,522	184	242	18	343	405	104	35	363	1,077	1,488	71.8	59.0	423	511	390	761
	6 mos.	203	5,695	....	5,999	12,671	896	1,463	187	3,056	3,570	616	209	2,062	7,164	9,264	119.4	73.1	—1,165	950	398	2,382
Boston & Maine	June	1,554	4,923	456	5,800	5,778	527	670	134	747	812	235	127	2,530	4,205	4,364	72.5	75.5	1,595	415	557	372
	6 mos.	1,554	28,622	2,632	33,595	35,899	3,514	4,018	824	4,744	5,224	1,417	774	15,158	25,929	27,317	77.2	76.1	7,666	2,483	805	2,446
C P R Lines in Maine	June	234	313	35	378	445	87	101	20	59	78	18	18	121	313	363	82.6	81.5	66	31	—16	10
	6 mos.	234	4,619	204	4,979	4,988	555	561	121	630	667	108	104	1,080	2,534	2,729	50.9	54.7	2,445	195	1,708	1,559
Carolina & Northwestern	June	284	253	....	257	268	45	41	8	33	32	21	6	80	176	168	68.5	62.9	81	16	20	43
	6 mos.	284	1,473	....	1,499	1,605	236	180	45	194	166	126	31	453	992	940	66.2	58.6	507	98	153	250
Central of Georgia	June	1,745	3,080	101	3,394	3,441	501	451	43	572	748	147	173	1,487	2,937	2,998	86.5	87.1	457	276	124	178
	6 mos.	1,745	18,856	707	20,804	21,824	3,016	3,385	268	3,489	4,509	939	1,040	8,975	17,741	18,900	85.3	86.6	3,063	1,606	1,074	1,192
Central of New Jersey	June	592	3,488	513	4,456	4,543	501	455	97	701	680	169	74	2,077	3,578	3,500	80.3	77.0	878	482	—19	155
	6 mos.	592	19,023	2,757	24,515	26,106	2,878	2,920	581	4,118	4,275	968	461	12,973	21,694	21,842	88.5	83.7	2,822	2,944	—2,856	—835
Central Vermont	June	375	599	43	701	815	253	241	18	98	113	9	23	358	760	746	108.5	91.5	—59	56	—239	—82
	6 mos.	375	3,900	252	4,575	4,875	1,091	1,041	106	640	705	55	121	2,007	4,042	4,100	88.4	84.1	533	317	—423	—186
Chesapeake & Ohio	June	5,091	24,759	504	26,789	30,478	3,300	3,600	586	5,394	5,021	1,943	841	10,676	21,977	21,942	82.0	72.0	4,812	2,197	3,053	4,827
	6 mos.	5,091	135,727	2,806	145,963	176,554	17,500	20,300	3,189	31,279	31,593	11,753	5,132	60,985	125,142	130,586	85.7	74.0	20,832	8,015	14,566	25,635
Chicago & Eastern Illinois	June	862	2,487	204	2,953	3,107	337	371	31	397	560	174	109	1,136	2,155	2,446	73.0	78.7	798	232	341	134
	6 mos.	862	13,748	921	16,235	17,485	1,886	2,183	184	2,804	3,233	1,065	726	6,820	13,311	14,460	82.0	82.7	2,924	1,379	334	644
Chicago & Illinois Midland	June	121	597	....	606	495	69	42	—7	124	123	24	30	163	437	392	72.1	79.2	169	99	50	19
	6 mos.	121	3,837	....	3,916	3,747	320	261	45	786	646	146	183	971	2,557	2,311	65.3	61.7	1,359	726	507	548
Chicago & North Western	June	10,709	17,076	1,270	19,270	18,692	2,987	3,240	423	3,013	3,589	1,180	591	7,195	14,773	16,533	76.7	88.5	4,497	1,393	1,961	122
	6 mos.	10,729	90,856	7,629	103,773	110,306	16,637	17,796	2,444	17,907	19,608	6,973	3,876	43,560	88,370	95,920	85.2	87.0	15,403	8,379	1,277	—342
Chicago, Burlington & Quincy	June	8,626	16,560	2,167	20,975	20,176	3,125	3,142	470	3,849	3,957	1,147	644	8,579	17,239	17,022	82.2	84.4	3,736	1,898	1,302	1,013
	6 mos.	8,640	99,968	9,586	123,029	120,332	16,098	15,859	3,014	21,718	22,869	6,211	3,883	49,776	97,778	98,626	79.5	72.0	25,250	14,121	8,693	7,954
Chicago Great Western	June	1,469	2,434	8	2,635	2,670	391	373	44	434	422	134	125	983	2,024	1,992	76.8	74.6	611	185	164	163
	6 mos.	1,469	13,808	42	15,008	16,318	1,965	2,051	266	2,570	2,533	803	742	5,744	11,568	11,634	77.1	71.3	3,440	1,262	738	1,323
Chicago, Milw., St. Paul & Pac	June	10,562	15,160	1,255	18,563	19,012	2,644	3,418	430	2,876	3,315	912	579	7,293	14,690	16,297	79.1	85.7	3,873	1,642	1,310	—34
	6 mos.	10,572	86,846	6,092	104,696	110,886	14,988	17,449	2,749	18,178	20,172	5,386	3,212	43,271	87,307	94,585	83.4	85.3	17,390	9,821	2,147	975
Chicago, Rock Island & Pacific	June	7,850	16,776	1,566	20,173	21,217	2,760	3,295	232	2,789	3,150	666	518	7,381	14,428	15,846	71.5	74.7	5,745	2,350	1,455	1,363
	6 mos.	7,850	85,988	7,638	104,049	108,761	12,559	14,223	1,508	17,135	18,345	3,943	3,057	42,152	80,745	85,591	77.6	78.7	23,304	9,558	4,691	4,732
Clinchfield	June	306	1,660	....	1,669	1,605	186	189	22	280	340	105	69	451	1,056	1,090	63.3	67.9	613	201	532	443
	6 mos.	300	10,003	....	10,055	10,341	1,082	1,171	134	1,700	2,096	634	410	2,621	6,226	6,758	61.9	65.4	3,829	1,200	3,163	3,172
Colorado & Southern	June	712	1,159	78	1,383	1,253	154	162	18	222	193	81	34	583	1,070	1,001	77.3	79.9	314	156	102	105
	6 mos.	712	6,144	342	7,376	7,785	1,011	984	169	1,443	1,288	487	207	3,298	6,439	6,122	87.3	78.6	937	547	274	661
Ft. Worth & Denver	June	1,039	2,417	164	2,822	2,656	276	235	42	336	287	45	50	988	1,775	1,653	62.9	62.2	1,047	435	303	297
	6 mos.	1,039	9,940	720	12,007	11,999	1,387	1,348	203	1,688	1,456	266	413	5,081	9,359	8,972	77.9	74.8	2,648	731	350	613
Colorado & Wyoming	June	39	262	....	443	260	20	26	2	30	24	12	2	122	192	175	43.3	67.6	251	147	101	24
	6 mos.	39	1,054	....	1,794	2,269	104	138	12	190	174	75	12	645	1,030	1,274	57.4	56.1	764	477	274	356
Delaware & Hudson	June	763	3,215	100	3,414	3,634	408	430	63	647	767	199	114	1,271	2,698	2,911	79.0	80.1	716	350	255	442
	6 mos.	763	19,416	666	20,662	23,173	2,197	2,446	406	4,076	5,166	1,187	534	8,934	16,462	18,390	79.7	79.4	4,200	2,221	1,132	2,918
Denver & Rio Grande Western	June	2,128	5,746	300	6,240	6,107	818	836	115	986	925	335	229	2,072	4,428	4,298	71.0	70.4	1,812	1,052	725	766
	6 mos.	2,128	33,695	1,260	36,120	38,250	3,853	4,421	600	5,754	5,860	2,016	1,408	11,597	24,532	25,660	67.9	67.1	11,588	6,770	4,841	5,308
Detroit & Toledo Shore Line	June	50	465	....	467	555	46	60	4	59	68	24	21	186	328	387	70.3	69.8	139	52	22	25
	6 mos.	50	2,956	....	3,092	3,784	286	341	23	386	460	145	123	1,187	2,083	2,443	67.4	64.6	1,009	414	175	220
Detroit, Toledo & Ironton	June	465	1,516	....	1,586	1,571	207	188	23	322	422	155	57	471	1,163	1,253	73.3	79.8	423	123	387	228
	6 mos.	465	8,215	....	8,517	11,056	1,231	1,506	241	2,003	2,591	934	349	2,839	7,004	8,092	82.2	73.2	1,513	692	1,159	2,168
Duluth, Miss. & Iron Range	June	572	3,908	....	4,638	7,498	366	623	39	591	761	203	14	1,209	2,465	3,494	53.1	46.6	2,173	360	1,804	1,714
	6 mos.	572	7,853	2	9,341	21,132	2,563	2,965	612	3,174	4,190	1,223	78	4,426	11,947	15,714	127.9	74.4	—2,606	1,120	—3,893	1,849
Duluth, Winnipeg & Pacific	June	175	383	1	389	450	95	141	5	48	55	1	9	170	341	406	87.7	90.3	48	41	—83	—74
	6 mos.	175	2,635	4	2,649	2,852	509	544	29	339	345	7	48	1,049	2,023	2,091	76.4	73.3	626	249	—127	20

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1961

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1961	1960	Operating Expenses: Maint. Way and Structures: Total 1961	Total 1960	Deprec and Retirements	Maint. Equipment: Total 1961	Total 1960	Deprec and Retirements	Traffic	Transportation	Total 1961	Total 1960	Operating ratio 1961	1960	Net from railway operation	Railway tax accruals	Net Railway operating income 1961	1960
Elgin, Joliet & Eastern	June	205	2,920	....	3,870	4,049	287	308	29	662	938	130	49	1,374	2,686	3,174	69.4	78.4	1,184	699	378	151
	6 mos.	205	15,176	....	19,821	28,388	1,706	2,106	174	3,502	5,369	775	282	7,838	15,275	20,833	77.1	73.4	4,546	2,737	1,189	1,577
Erie-Lackawanna	June	3,077	15,006	1,330	18,087	18,495	1,692	2,293	416	3,140	3,096	892	512	9,052	15,520	16,104	85.8	87.1	2,568	1,768	—443	—428
	6 mos.	3,077	83,467	7,975	102,279	115,014	11,562	11,899	2,403	19,979	19,874	5,366	3,153	54,809	96,275	97,740	94.1	85.0	6,004	11,000	—12,357	—293
Florida East Coast	June	572	1,481	338	2,057	2,137	234	230	45	357	375	115	68	922	1,741	1,781	84.6	83.4	316	243	—81	23
	6 mos.	572	11,509	2,765	15,915	17,686	1,829	2,318	252	2,791	3,203	694	430	6,469	12,670	13,739	79.6	77.7	3,245	1,718	192	1,190
Georgia Railroad	June	321	497	14	588	648	83	75	9	107	107	34	40	276	542	542	92.1	83.7	46	38	12	66
	6 mos.	321	2,954	77	3,524	3,825	492	497	51	649	680	202	240	1,668	3,286	3,397	93.3	88.8	238	231	—8	268
Georgia & Florida	June	321	286	....	290	259	113	121	3	51	39	11	23	98	307	280	105.9	108.1	—17	20	—65	—56
	6 mos.	321	1,716	....	1,743	1,661	492	693	21	290	251	61	137	578	1,623	1,728	93.1	104.0	121	118	—149	—299
Grand Trunk Western	June	946	3,609	245	4,234	4,804	637	765	60	703	828	76	114	2,021	3,733	4,114	88.2	85.6	501	377	—402	—179
	6 mos.	946	20,684	1,114	23,664	29,435	3,685	4,164	351	4,386	5,175	457	603	12,134	22,288	24,935	94.2	84.7	1,376	2,284	—3,440	—711
Great Northern	June	8,276	18,622	1,226	21,384	22,064	3,920	4,442	309	3,954	3,952	944	524	7,476	16,891	17,394	79.0	78.5	4,492	1,946	2,186	1,505
	6 mos.	8,278	94,359	4,363	106,259	117,249	18,727	18,722	1,962	21,829	22,908	5,596	3,242	42,672	92,466	94,903	87.0	80.9	13,793	11,088	1,168	7,134
Green Bay & Western	June	219	356	....	369	370	49	64	5	52	60	9	28	134	286	298	77.5	80.6	83	41	4	—3
	6 mos.	219	2,120	....	2,191	2,215	228	316	29	321	293	55	160	701	1,556	1,645	71.1	74.3	634	314	123	82
Gulf, Mobile & Ohio	June	2,745	5,852	267	6,563	6,169	905	916	88	1,262	1,288	293	262	2,273	5,026	4,951	76.6	80.3	1,538	647	402	290
	6 mos.	2,746	34,261	1,389	38,304	38,957	4,531	5,328	470	7,506	8,071	1,759	1,562	13,431	28,982	30,972	75.7	79.5	9,322	4,068	2,429	2,120
Illinois Central	June	6,466	16,614	1,878	20,695	21,195	2,809	3,336	483	3,813	4,245	932	619	8,214	16,540	17,660	79.9	83.3	4,155	2,218	1,384	811
	6 mos.	6,488	98,168	10,417	121,690	130,700	16,650	19,426	2,591	21,359	25,806	5,471	3,851	49,993	98,231	107,364	80.7	82.1	23,459	12,833	6,847	5,714
Illinois Terminal	June	335	643	....	732	865	80	74	3	115	138	26	39	296	584	659	97.8	76.2	148	68	14	32
	6 mos.	335	3,651	....	4,102	4,651	484	476	17	727	873	159	245	1,768	3,546	3,866	86.4	83.1	556	249	—93	50
Kansas City Southern	June	894	3,018	93	3,502	3,625	310	325	51	469	497	113	92	1,123	2,123	2,155	60.6	59.5	1,379	490	575	601
	6 mos.	894	17,887	378	20,391	22,186	1,473	1,707	300	2,605	3,026	678	560	6,804	12,170	13,166	59.7	59.3	8,221	3,184	3,274	3,653
Kansas, Oklahoma & Gulf	June	328	433	....	434	411	47	38	7	31	34	12	32	113	251	246	57.8	59.8	183	88	59	41
	6 mos.	328	2,577	....	2,585	2,533	265	225	60	212	238	74	195	625	1,476	1,491	57.1	58.9	1,109	482	337	292
Lake Superior & Ishpeming	June	160	520	....	642	717	72	93	12	82	72	36	3	135	310	342	48.2	47.6	333	Cr.70	415	161
	6 mos.	160	1,190	....	1,461	2,270	286	351	73	413	453	214	14	448	1,238	1,550	84.8	68.3	223	137	149	271
Lehigh & Hudson River	June	98	278	....	279	295	29	27	2	33	31	8	16	109	204	205	73.0	69.4	75	31	9	16
	6 mos.	98	1,643	....	1,648	1,573	169	154	15	201	184	50	96	665	1,233	1,194	74.8	75.9	415	136	10	25
Lehigh & New England	June	177	240	....	246	368	—56	46	7	88	196	37	8	148	225	461	91.5	125.1	21	23	86	—36
	6 mos.	177	1,098	....	1,120	2,031	147	262	49	661	1,057	222	39	747	1,843	2,674	164.5	131.6	—723	144	—478	—318
Lehigh Valley	June	1,114	3,621	—4	3,753	4,099	501	609	97	686	774	198	131	1,886	3,241	3,951	91.2	96.4	332	420	—387	—502
	6 mos.	1,117	20,669	112	21,687	27,128	3,041	3,667	584	4,173	4,740	1,104	778	12,098	21,402	24,344	98.7	89.7	286	2,544	—4,215	—1,374
Long Island	June	344	911	4,870	5,932	5,903	791	846	101	1,116	1,105	168	52	3,029	5,253	5,139	88.6	87.1	679	407	108	148
	6 mos.	344	4,926	28,807	34,683	35,241	5,045	5,151	616	6,839	6,674	1,009	257	18,142	31,772	31,313	91.6	88.9	2,911	2,419	—612	174
Louisiana & Arkansas	June	746	1,736	49	1,891	2,047	181	268	22	271	308	97	75	675	1,282	1,418	67.8	69.3	609	289	173	200
	6 mos.	746	10,347	232	11,219	12,784	1,000	1,251	126	1,674	1,889	585	458	4,048	7,626	8,178	68.0	64.0	3,594	1,863	1,011	1,608
Louisville & Nashville	June	5,684	17,029	828	19,238	19,502	1,800	2,200	310	3,261	4,386	1,262	544	7,494	14,026	15,718	72.9	80.6	5,212	2,993	2,014	1,480
	6 mos.	5,684	98,053	3,776	109,855	116,699	12,667	13,500	1,917	20,394	25,340	7,452	3,184	45,267	87,395	92,846	79.6	79.6	22,460	13,728	8,280	8,822
Maine Central	June	937	1,664	2	1,778	1,958	299	355	28	318	396	78	29	700	1,459	1,595	82.1	81.5	319	119	114	140
	6 mos.	937	11,506	2	12,225	12,986	2,045	2,095	170	2,323	2,321	462	174	4,434	9,677	9,778	79.2	75.3	2,549	1,137	722	1,117
Minn., Northfield & Southern	June	77	266	....	281	307	74	34	3	34	35	13	37	81	264	226	93.8	73.6	17	17	—5	23
	6 mos.	77	1,591	....	1,700	1,877	185	132	17	218	256	77	208	479	1,314	1,343	77.3	71.5	385	254	105	167
Missouri-Illinois	June	172	423	....	428	416	10	48	4	87	96	40	15	131	259	318	60.5	76.4	169	137	74	33
	6 mos.	172	2,458	....	2,479	2,792	257	239	29	538	539	240	86	747	1,715	1,742	69.2	62.4	764	674	310	467
M-K-T Lines	June	2,885	4,663	75	5,124	5,109	611	580	101	1,013	970	259	164	1,885	3,870	3,815	75.5	74.7	1,254	341	267	341
	6 mos.	2,886	25,611	384	28,326	28,315	3,268	3,029	585	5,125	5,562	1,556	1,009	10,525	21,154	21,293	74.7	75.2	7,172	2,053	1,457	1,940
Missouri Pacific	June	9,361	21,436	1,088	24,953	25,483	3,029	3,913	328	3,882	4,404	1,187	623	9,458	17,983	19,801	72.1	77.7	6,970	2,704	2,788	2,431
	6 mos.	9,361	124,584	4,994	144,064	149,009	16,735	19,918	1,972	23,622	25,948	7,035	4,097	55,359	106,115	113,407	73.7	76.1	37,948	13,078	15,734	16,289
Monon	June	541	1,255	28	1,367	1,521	181	238	33	276	277	76	107	606	1,267	1,360	92.7	89.4	100	113	—94	—44
	6 mos.	541	7,545	157	8,221	9,357	1,181	1,393	170	1,693	1,674	456	641	3,705	7,856	8,218	95.6	87.8	365	667	—731	—89
Monongahela	June	177	566	....	569	577	74	71	11	50	44	11	1	118	269	252	47.3	43.6	300	37	214	227
	6 mos.	177	3,215	....	3,233	3,550	443	437	77	288	318	66	6	776	1,619	1,682	50.1	47.4	1,613	490	763	1,339
New York Central	June	10,245	40,275	5,623	53,336	57,941	5,947	6,425	1,108	9,977	11,250	2,376	1,052	23,979	43,485	47,382	81.5	81.8	9,851	5,451	1,665	2,763
	6 mos.	10,255	219,801	29,718	292,660	350,879	32,753	37,883	6,569	60,894	67,500	14,340	6,038	148,267	263,816	291,381	90.1	83.0	28,843	32,418	—18,453	13,858
Pittsburgh & Lake Erie	June	220	2,320	28	2,437	2,909	404	414	57	909	1,007	337	53	900	2,461	2,712	101.0	93.2	—24	208	728	784
	6 mos.	220	11,104	172	11,981	19,577	2,082	2,506	345	5,466	5,452	2,020	347	5,420	14,493	16,416	121.0	83.9	—2,513	1,276	2,168	5,947
New York, Chic. & St. Louis	June	2,170	10,547	98	11,123	12,696	1,244	1,589	154	1,779	2,033	452	340	4,543	8,412	9,475	75.6	74.6	2,711	1,090	1,234	1,136
	6 mos.	2,170	59,407	580	62,338	77,181	6,572	8,197	895	10,491	12,593	2,731	2,043	25,640	47,765	55,194	76.6	71.5	14,573	6,491	5,748	7,783
New York, New Haven & Hart	June	1,740	5,922	3,553	10,771	11,466	1,713	1,784	282	2,135	1,915	527	274	5,562	10,540	10,432	97.9	91.0	231	650	—1,903	—1,410
	6 mos.	1,740	33,212	20,894	62,365	69,406	9,620	8,731	1,655	12,623	11,397	3,153	1,518	33,067	62,132	61,551	99.6	88.7	233	4,220	—12,830	—7,267
New York Connecting	June	21	333	....	354	312	105	85	25	16	18	....	....	74	199	199	56.2	63.8	155	97	17	—10
	6 mos.	21	1,796	....	1,917	2,056	433	488	152	79	121	....	....	452	988	1,249	51.5	60.8	930	596	161	91
New York, Sus. & Western	June	97	269	5	292	341	43	39	6	41	53	8	9	138	260	282	89.0	82.4	32	31	—36	—18
	6 mos.	97	1,687	34	1,855	2,056	241	258	36	263	312	48	51	873	1,609	1,751	86.8	85.1	245	184	—191	—146
Norfolk & Western	June	2,746	18,651	226	19,636	21,290	1,885	2,206	399	3,092	3,326	1,477	388	5,197	11,470	12,107	58.4	56.9	8,166	4,272	5,037	5,704
	6 mos.	2,747	108,514	1,145	114,431	127,471	10,981	13,340	2,302	18,017	20,465	8,936	2,330	31,021	67,786	74,363	59.2	58.3	46,645	23,791	28,040	33,254
Norfolk Southern	June	593	808	....	819	790	151	182	16	148	144	40	48	273	709	707	86.5	89.5	111	56	30	16
	6 mos.	593	4,587	....	4,685	4,676	955	1,013	93	768	776	240	293	1,598	4,073	3,985	89.5	85.2	612	327	92	241

(Continued on next page)

REVENUES AND EXPENSES OF RAILWAYS

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1961

Name of Road		Average mileage operated during period	Operating Revenues				Operating Expenses										Operating ratio		Net from railway operation	Railway tax accruals	Net Railway operating income	
					Total (inc. misc.)		Maint. Way and Structures			Maint. Equipment												
			Freight	Pass.	1961	1960	Total 1961	Total 1960	Deprec and Retire-ments	Total 1961	Total 1960	Deprec. and Retire-ments	Traffic	Trans-portation	Total 1961	Total 1960	1961	1960			1961	1960
Northern Pacific	June	6,801	13,186	938	15,253	15,534	2,299	2,556	288	2,412	2,789	850	439	5,737	11,869	12,570	77.8	80.9	3,384	1,733	2,126	1,322
	6 mos.	6,800	69,456	2,991	78,632	86,109	12,245	13,522	2,011	16,100	17,089	5,100	2,495	33,959	70,644	74,066	89.8	86.0	7,988	8,610	1,423	3,947
Northwestern Pacific	June	328	1,059	1	1,064	1,116	161	182	18	78	80	3	8	276	552	607	51.9	54.4	512	198	90	74
	6 mos.	328	5,374	3	5,403	6,086	930	1,192	115	351	439	15	41	1,510	3,005	3,645	55.6	59.9	2,398	846	352	213
Pacific Electric	June	336	1,145	....	1,325	1,221	178	182	29	61	44	4	20	552	917	919	69.2	75.3	408	143	57	—11
	6 mos.	336	6,516	....	7,366	6,831	973	1,086	153	287	223	22	124	3,095	5,105	5,178	69.3	75.8	2,261	860	230	—261
Pennsylvania	June	9,835	52,904	8,189	69,703	74,723	6,470	8,079	1,485	13,324	13,776	3,071	1,083	31,075	56,069	60,723	89.4	81.3	13,635	5,881	2,508	1,727
	6 mos.	9,860	286,981	51,693	387,929	461,852	39,298	46,871	8,876	76,043	88,481	18,279	6,620	186,965	333,914	375,377	86.1	81.3	54,015	34,622	—12,364	13,258
Penn-Reading S. S. Lines	June	338	501	71	587	675	141	173	28	112	113	26	6	457	771	845	131.4	125.2	—184	70	—424	—418
	6 mos.	338	2,739	314	3,158	3,880	904	1,050	156	702	736	154	35	2,769	4,818	5,046	152.6	130.0	—1,160	424	—3,031	—2,652
Piedmont & Northern	June	126	413	....	424	475	58	53	6	33	40	11	34	98	265	259	62.4	54.6	159	83	26	56
	6 mos.	126	2,677	....	2,752	2,925	295	287	33	209	229	59	201	576	1,535	1,505	55.8	51.5	1,217	616	287	395
Pittsburgh & West Virginia	June	132	514	....	516	649	131	151	25	118	163	40	53	174	533	649	103.2	99.9	—17	44	—74	12
	6 mos.	132	2,871	....	2,885	4,434	702	897	150	742	923	256	324	1,086	3,199	3,859	110.9	87.0	—314	248	—649	348
Quanah, Acme & Pacific	June	120	317	....	319	380	18	28	2	20	13	....	13	66	138	139	43.3	36.6	181	65	76	200
	6 mos.	120	1,571	....	1,583	1,746	113	114	10	101	79	1	130	334	795	774	50.2	44.3	789	161	400	476
Reading	June	1,294	7,245	471	8,321	8,624	1,113	1,020	195	1,666	1,575	461	205	3,689	7,190	7,036	86.4	81.6	1,131	623	126	673
	6 mos.	1,295	40,318	3,074	47,386	55,230	6,828	6,514	1,186	10,240	10,475	2,722	1,077	22,723	43,926	44,929	92.7	81.4	3,460	3,923	—4,040	3,801
Richmond, Fred. & Potomac	June	118	1,214	371	1,869	2,027	133	167	29	293	290	67	28	670	1,250	1,315	66.9	64.9	620	371	154	182
	6 mos.	118	7,490	2,479	11,830	12,872	922	1,037	173	1,766	1,761	404	169	4,322	8,109	8,018	68.6	62.3	3,721	2,174	800	1,444
Rutland	June	391	298	....	312	363	74	87	7	50	69	18	26	128	300	383	96.2	105.4	12	27	—15	—59
	6 mos.	391	1,827	....	1,954	2,170	432	460	48	348	368	109	150	730	1,798	2,083	92.1	96.0	155	157	—9	—109
St. Louis-San Francisco	June	4,546	9,650	188	10,582	11,279	1,329	1,835	173	1,521	1,773	607	397	3,959	7,923	8,582	74.9	76.1	2,660	976	1,333	1,006
	6 mos.	4,546	50,869	933	56,191	60,301	7,642	9,343	1,098	9,163	9,962	3,661	2,200	22,895	45,599	48,874	81.1	81.0	10,592	4,113	4,943	5,671
St. Louis, S. F. & Texas	June	143	581	....	595	467	43	49	4	22	24	1	23	139	239	256	40.2	54.8	356	152	139	208
	6 mos.	143	2,705	....	2,809	2,748	282	197	25	137	165	7	134	863	1,493	1,458	53.2	53.1	1,316	511	414	522
St. Louis Southwestern Lines	June	1,554	5,564	....	5,635	5,426	523	583	80	653	707	239	187	1,864	3,412	3,454	60.5	63.7	2,232	1,145	925	889
	6 mos.	1,554	31,820	—1	32,236	34,252	3,186	3,469	508	3,892	4,207	1,365	1,108	10,886	20,158	20,609	62.5	60.2	12,078	5,730	4,975	6,002
Savannah & Atlanta	June	144	381	....	396	362	56	58	2	70	67	19	18	116	274	270	69.2	74.6	112	58	37	35
	6 mos.	144	2,139	....	2,223	2,162	368	317	12	414	411	116	101	722	1,687	1,606	75.9	74.3	535	282	167	225
Seaboard Air Line	June	4,135	10,514	1,147	12,705	13,362	1,528	1,698	216	2,424	2,533	749	491	4,917	9,958	10,330	78.4	77.3	2,747	1,175	1,218	1,275
	6 mos.	4,135	64,998	7,234	78,872	83,780	10,386	10,574	1,303	15,337	15,475	4,538	2,955	29,569	62,391	63,053	79.1	75.3	16,481	7,478	6,590	9,452
Soo Line	June	4,716	6,366	114	6,863	7,834	842	1,099	103	1,106	1,121	281	229	2,634	5,201	5,702	75.8	72.8	1,663	496	874	1,364
	6 mos.	4,716	34,200	347	36,544	38,566	4,676	5,801	654	6,654	6,979	1,678	1,372	15,424	30,521	33,095	83.5	85.8	6,023	2,915	1,505	1,129
Southern Railway	June	6,267	18,980	911	21,539	20,767	2,705	2,839	444	4,071	3,769	1,071	526	7,135	15,646	15,374	72.6	74.0	5,893	2,724	2,463	2,276
	6 mos.	6,267	111,401	4,906	126,385	132,998	16,303	16,816	2,475	23,135	23,166	6,336	3,217	41,880	92,347	92,992	73.1	69.9	34,038	14,573	13,980	17,368
Alabama Great Southern	June	327	1,171	52	1,362	1,312	251	253	36	324	270	84	44	472	1,191	1,143	87.4	87.1	171	88	64	9
	6 mos.	327	6,271	244	7,409	8,187	1,466	1,629	213	1,849	1,915	502	262	2,865	7,094	7,407	95.7	90.5	316	590	—535	—155
Cinn., N. O. & Tex. Pac	June	337	2,635	83	2,950	3,090	549	556	118	846	696	264	85	862	2,575	2,346	85.7	75.9	423	270	349	542
	6 mos.	337	14,438	403	16,320	19,267	3,609	3,534	687	4,740	4,513	1,613	517	5,067	15,130	15,054	92.7	78.1	1,190	1,569	537	3,042
Georgia Southern & Florida	June	397	523	43	651	726	142	145	11	68	71	11	21	269	551	559	84.6	77.0	100	37	—77	—29
	6 mos.	397	3,322	182	4,048	4,574	791	1,017	68	409	448	64	130	1,502	3,169	3,514	78.3	76.8	878	217	—226	—157
New Orleans & Northeastern	June	203	808	40	930	835	192	195	24	226	182	102	28	277	797	720	85.7	86.1	133	84	114	75
	6 mos.	203	4,532	200	5,216	5,089	1,117	1,163	146	1,354	1,268	611	170	1,568	4,678	4,589	89.7	90.2	537	518	198	287
Southern Pacific	June	7,948	45,475	2,562	50,769	49,089	5,169	5,532	496	10,237	10,823	2,660	777	18,374	36,929	37,301	72.7	76 0	13,840	7,034	5,534	4,590
	6 mos.	7,951	235,469	11,886	262,104	273,579	29,076	31,262	3,021	56,798	60,710	15,809	4 517	99,281	202 965	210,318	77.4	76.9	59,138	31,955	24,494	27,947
Texas & New Orleans	June	4,098	10,172	408	11,255	11,281	1,686	1,820	176	1,940	1,706	2,012	238	4,235	8,688	8,553	77.2	75.8	2,568	920	296	430
	6 mos.	4,099	59,167	1,699	64,771	67,425	9,329	10,736	1,064	10,563	10,092	2,982	1,534	24,676	49,706	50,485	76.7	74.9	15,065	5,143	1,789	2,901
Spokane International	June	150	270	....	278	273	51	55	5	26	27	9	4	78	168	166	60.3	60.8	110	55	24	21
	6 mos.	150	1,675	....	1,728	1,741	299	324	28	131	170	58	24	423	935	1,002	54.1	57.5	793	290	318	208
Spokane, Portland & Seattle	June	936	2,361	126	2,669	2,740	393	412	63	449	492	129	37	1,068	2,073	2,090	77.7	76.3	597	242	263	181
	6 mos.	936	13,235	458	14,801	16,389	2,494	2,547	360	2,591	2,884	774	218	6,093	12,158	12,628	82.1	77.1	2,643	1,505	493	1 528
Tennessee Central	June	284	285	1	321	355	48	46	5	50	51	21	15	115	250	258	77.8	72.8	71	19	13	28
	6 mos.	284	1,802	1	1,991	2,128	272	277	30	365	331	128	92	731	1,594	1,587	80.0	74.6	398	145	8	116
Texas & Pacific	June	1,828	4,602	399	5,621	6,112	544	663	98	901	1,032	300	218	2,373	4,394	4,790	78.2	78.4	1,228	464	369	383
	6 mos.	1,828	27,698	1,731	33,377	37,451	3,164	4,230	576	5,616	6,394	1,797	1,338	14,328	26,665	29,328	79.9	78.3	6,712	2,274	1,731	2,049
Texas Mexican	June	161	228	....	263	281	51	45	6	25	32	12	13	71	185	195	70.2	69.4	78	40	19	18
	6 mos.	161	1,354	....	1,562	1,745	277	289	38	202	206	74	77	482	1,177	1,196	75.3	68.5	386	190	62	121
Toledo, Peoria & Western	June	239	607	....	631	637	64	80	7	47	46	14	50	175	377	391	59.7	61.4	254	101	60	66
	6 mos.	239	3,240	....	3,372	3,786	345	450	42	300	302	81	296	1,014	2,289	2,362	64 9	62.4	1,183	492	262	395
Union Pacific	June	9,717	34,518	3,225	41,098	39,518	4,562	4,620	782	7,473	7,759	2,627	1,124	14,780	30,253	30,253	73.6	76.6	10,846	6,557	2,157	1,808
	6 mos.	9,725	203,487	11,731	233,308	240,349	26,671	28,097	4,796	44,316	46,055	15,556	6,779	82,962	173,822	180,169	74.5	75.0	59,486	39,680	10,699	12,733
Wabash	June	2,423	7,801	290	8,992	9,360	899	1,009	129	1,266	1,365	482	313	4,216	7,149	7,459	79.5	79.7	1,843	651	416	437
	6 mos.	2,423	45,876	1,617	52,866	56,394	4,792	5,677	754	7,409	8,333	2,910	1,883	24,671	41,496	44,801	78.5	79.4	11,369	3,825	2,807	2,592
Ann Arbor	June	294	650	....	662	677	60	67	7	151	141	44	22	317	572	570	86.4	84.1	90	49	44	43
	6 mos.	294	3,631	....	3,662	4,128	325	392	40	806	932	264	129	1,771	3,159	3,688	86.3	89.3	503	303	177	—30
Western Maryland	June	841	3,288	....	3,395	4,086	487	603	59	762	838	308	116	1,195	2,736	3,080	80.6	75.4	659	415	529	745
	6 mos.	841	18,811	....	19,535	24,685	2,996	3,789	351	4,614	5,107	1,850	685	7,416	16,851	18,970	86.3	76.9	2,684	1,699	2,409	4,277
Western Pacific	June	1,188	4,206	247	4,570	4,585	486	584	80	696	737	235	239	1,573	3,317	3,549	72.6	77.4	1,253	551	619	504
	6 mos.	1,188	24,096	986	25,681	26,183	2,928	3,513	504	4,089	4,184	1,422	1,479	9,056	19,472	21,011	75.8	80.2	6,209	3,109	2,732	2,365

MILWAUKEE LINE CHANGE

(*Continued from page 19*)

dredged from a borrow pit in an overflow channel of the river and placed hydraulically. The embankment has a maximum height of 130 ft and contains about 7 million cu yd of material. It has three-to-one side slopes, which are protected from the ground line to a level 7 ft above maximum pool level by a 2½-ft-thick rock blanket. This blanket is comprised of a gravel filter layer, 6 in. thick, over which a 6-in. layer of rock spalls was placed, followed by the spreading of large-size riprap. The latter, ranging up to 30 in. in size, was hauled to a car-dumping site in railroad cars and loaded into dump trucks. The trucks were assisted when spreading their loads on the slopes by winches from heavy bulldozers stationed on top of the embankment. The portion of the slope above the rock blanket was sown with grass seed.

Tops of embankments ranged from 24 to 26 ft in width, depending upon the height of the fills. Berms, some as wide as 200 ft, were built to stabilize the fill materials where soil studies showed their need or economy.

The temporary steel viaduct carries the new main track 77 ft high over the old main track and siding. It was erected on an offset line 40 ft away from the final location of the new main so traffic could be maintained while the new fill was completed over the old tracks. After this new embankment is laid with the new track and placed in operation, the steel viaduct will be removed and the legs of the towers cut off below embankment slope grade.

The new main line is built to modern standards of railroad construction, using 115-lb rail and 8½-ft treated hardwood crossties with 12 in. of processed gravel ballast under them. Total central angle of curvature on the new main route is 445 deg; the sharpest curve is 2 deg. These figures compare with 453 deg of central angle and 6 deg for the sharpest curve on the old route.

The branch line utilizes rail recovered from part of the old main track. Total central angle of curvature of 369 deg for the changed line compares with 828 deg for the old branch line. The sharpest curve on the new branch is 4 deg, against 8 deg for the old route. Signal and communication facilities also were built to modern standards.

The cost of the entire work to replace the railroad's present facilities was borne by the federal government, and the work was performed by contractors retained by the government. Connections at the ends of the relocation work were made by the railroad.

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The effective answer to overloaded highway and parking facilities in many metropolitan areas is the modernization and expansion of rail commuter service. A key step in your own railroad's commuter program is the selection of equipment that will attract passengers and, at the same time, bring maximum revenue with minimum operating costs.

Budd—pioneer in stainless steel railway cars—offers a comprehensive line of commuter cars to suit your particular service requirements. Leading commuter lines in all parts of the country have proved that this equipment provides exceptional economies in operation and maintenance . . . plus mainline comfort and convenience. We will be glad to send you technical data and to present proposals for your specific situation.

RAILWAY Budd DIVISION

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NDS AMONG LIBERALS—I've been greatly heartened by expressions of
standing of the present railroad situation, and the
's interest in it, by two of the country's leading
l (in the modern sense of the word) magazines—
on" and "New Republic." Writers of both articles
in the wide difference between government treatment
ded railroads and their rivals as the principal cause
e railroads' difficulties. Writer A. Byrnes (N.R.) is
ed to favor permission to the railroads to "diversify";
ould expect them, by way of compensation, to con-
some deficit operations (e.g., commuter service).
Cameron, who has written the piece in the "Nation,"
inclined to look favorably on mergers; and to go
with those who believe that minimum rates need no
ation.
is more than a little ironic that some business and
cal interests (especially among railroads' rivals) still
e railroads as sort of an octopus—while these liberal
als have had the perception and wisdom to change
opinions with the times.

SS-SUBSIDIZATION'—It's a temptation to go along, to some degree, with Writer
es' thought that—given the right to diversify—railroads
afford to provide unremunerative services. However,
is a lot of authoritative opinion on the opposite side.
e of Britain's leading transportation teachers, Pro-
r Gilbert Walker of Birmingham, has sent me an
e of his, appearing in the Birmingham C. of C. mag-
not long ago, in which he criticizes railway rates based on "average" costs. Such rates, he asserts, are too high for some hauls (and are, therefore, diverted to trucks). They are too low on other hauls. The railways retain this tonnage, but lose money on it.

The process of charging some traffic competitively high rates, in order to handle other business below costs, Professor Walker calls "cross-subsidization"; and to it he ascribes the continuing losses the British railways are suffering. Economist Walker, of course, is not an advocate of arbitrary "costs plus profit" rates. He thinks the British railways have been slow to take advantage of the great freedom they have enjoyed in making rates for the past few years.

10,000 CARS IN MEXICO—I note that the government of our good neighbor below the Rio Grande is fully appreciative of the importance of the railway equipment and supply business to the nation.

At the recent completion of the 10,000th freight car by the "Constructora de Carros de Ferrocarril," the nation's large car-building company, the guest of honor was no less a personage than Mexico's President López Mateos.

'OVER 50, YOU'RE THROUGH'—I have information from one of the large countries in Latin America to the effect that, in a necessary campaign for economy, it is planned to pension off all railway employees (including supervisors) who are over age 50. I am advised that the result will be that many important operations will have to be entrusted to youngsters with little experience.

I would not presume to have a firm opinion on the merits of a situation so far away, but doing all the laying-off by seniority seems a little rough.

FIGHTING FIRES (AND OTHER PERILS)—As scarce as money is on many railroads these days, I nevertheless often have the suspicion that, here and there, some able vice president might profitably be detached from his regular duties and given the assignment to keep the organization attentive to all important activities which do not bear the "putting out fires" label.

Any organization which doesn't "put out fires," of course, won't be around to enjoy the fruits of operations with long-run objectives. At the same time, there's no long-run percentage in extinguishing all the "fires," if attention to less spectacular objectives is neglected.

FORESIGHTED C. D. HINE—I have a letter from Lyman Campbell — father of the vice president of one big railroad and brother of another. His letter has to do with the late Colonel Charles Hine, author of two books of "Letters of an Old Railroad Official to His Son."

Mr. C. reminds me that Colonel H. served as a consultant to President Daniel Willard of the B&O, prior to World War I. He got actively into the war, but because of his age was denied active assignments. He rode around in a sidecar, from which practice he was called "Side-Car Charlie." (Not necessarily a derogatory term either, because his ability was generally recognized.)

I'd say that anybody who can write about railroads with such competence that what he sets down attracts readers nearly 60 years thereafter, has sufficiently proved his claim to be remembered.

A letter from a retired railroader, E. C. Ziesel at Warren, Ind., parallels Mr. C.'s opinion.

Mr. Railroader:

DO YOU KNOW THE REAL COST OF DO-IT-YOURSELF ELECTRICAL ENGINEERING AND CONSTRUCTION?

Analyze such expenditures and compare them with the low-cost of using the services of Specialists experienced in Railroad Electrical Engineering and Construction.

Cost savings and increased operating efficiency in Classification Yards, Terminals, Repair Shops, Unloading Facilities can be realized by the use of our services.

Full information will be given upon request.

HARRY F. ORTLIP, President
Harry F. Ortlip Company
50 North 18th Street
Philadelphia 3, Pa.
LOcust 4-4800

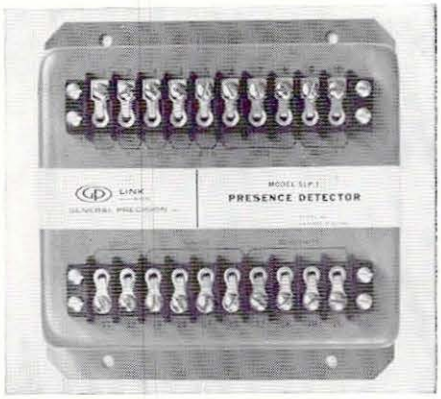
NEW PRODUCTS REPORT

Facsimile System (RA-1)

A new high-speed facsimile system includes the model 921 Videograph scanner (right in picture) and model 902 printer. The mechanical-optical scanner converts graphic source material into television-like signals (200 kc bandwidth) for transmission over coaxial cable, microwave or equivalent telephone system channels. The 902 printer (left in picture) is of the electrostatic type that can be operated remotely from the scanner or back-to-back in an office for production of copies of the original source document.

Documents fed into the scanner must be 8½" wide and any length with a minimum of 5½". Material over 16½" can be handled at the rate of 15 lineal ft per minute; sheets under 16½" are handled at a rate of 10 sheets per minute. Output of the printer is at these same input rates to the scanner.

Model 904 printer, a modified 902 unit, accepts binary-coded digital pulses, translates these into alpha-numeric characters and symbols, and prints in readable language at 1,080 lines per minute. *A. B. Dick Co.*



Presence Detector (RA-2)

The model SLP-1 presence detector is an electronic device for signaling the presence of a moving or stationary vehicle. It consists of a detector unit, a loop assembly, and an optional power supply. The detector senses any change of inductance in the loop which is caused by the presence of a conducting metal mass over the loop. The output of the solid state switch drives a relay operated in the fail-safe manner. With no presence in the loop, the relay is operated. When the loop inductance is changed by more than a predetermined amount, the relay is de-energized.

The loop assembly consists of a 20-ft long cable which can be formed into loops and a connecting cable. The detector unit contains the solid state electronic circuitry which feeds an AC signal into the loop.

The presence detector system operates from a —12-volt DC, 0.005-amp power supply, which is supplied separately. The recommended relay operates on 12 volts DC with a minimum coil resistance of 100 ohm. *Link Division, General Precision Inc.*

Switch Heaters (RA-3)

Electric switch heaters, designed to be attached to the movable point of a switch, are made of ½ and ⅝ in. diameter alloy tubing and rated from 200 to 500 watts per foot. Heaters are made in six standard lengths from 16½ to 39 ft, and are designed to operate on 240 or 480 volts ac. One heater is required for each switch rail. The heater is secured to the web of the rail with clamps supplied. A neoprene seal excludes moisture from terminals. *Heatrex, Inc.*

Ultrasonic Cleaner (RA-4)

A new ultrasonic cleaner is said to clean teletypewriters in 30 min. This includes removing the printer, cleaning, rinsing, drying, lubrication and reinstallation. Specifications of the new unit are: a tank 20 in. long by 20 in. wide by 16 in. deep with a capacity of 25 gal.; ultrasonic output— 1,000 watts at 40 kc; overall dimensions—23 in. long by 23 in. wide by 38 in. deep; weight—130 lb; power required— 115 or 230 volts AC, 4,000 watts. *Curtiss-Wright Corp.*

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READERS' SERVICE DEPT. (Attention George Johnson)

NEW PRODUCTS REPORT

Hy-Rail Equipment (RA-5)

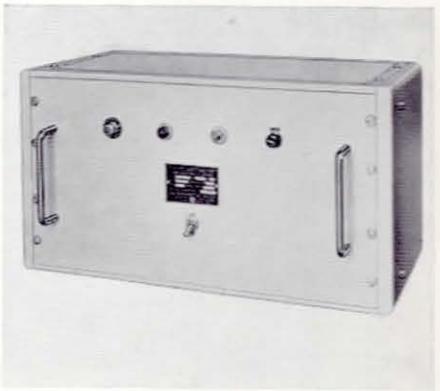
The Ford Econoline Station Bus now can be fitted with Hy-Rail equipment to permit it to travel either on highways or tracks. The bus has a load capacity of 1,400 lb and has room for 8 men when equipped with second and third seats. Hy-Rail equipment can be installed by a railroad or the bus can be purchased with rail equipment in place. A hydraulic turntable is available as an extra. *Fairmont Railway Motors, Inc.*

Engine Starting Battery (RA-6)

The Ultra-Start LXM series of lead storage batteries are designed as engine starting batteries, suitable for starting standby engine generators at microwave or similar installations. The LXM series has cells available with 8-hr capacities from 85 to 218 amp-hr. The batteries can be furnished charged and filled or charged and dry. The EHGS series, also an engine starting battery, has 8-hr capacities, 200 to 800 amp-hr. *Electric Storage Battery Co.*

Jack Leg Trencher (RA-7)

New 9- and 12-hp trenchers have a jack that allows one wheel to be lowered as much as 12 in., while keeping the trencher level on slopes of 4 x 1 or less. The jack may be installed on either side of the machine, allowing the spoil to be deposited on the side desired. The 9-hp model M4L will dig trenches 3 to 8 in. wide to 4 ft deep. The 12-hp model M422L will dig trenches 3 to 12 in. wide to 5 ft deep. *Witch Marketing Co.*



Voltage Regulator (RA-8)

Stabiline automatic voltage regulator type TM7101 maintains constant output regardless of line voltage or load fluctuations. It has no tubes, transistors or moving parts. Input is 95 to 135 volts, single phase, 60 cycles alternating current. Output is 115 volts nominal, adjustable from 110-120 volts, alternating current; accuracy—1-volt band for line voltage variations and/or load magnitude or power factor changes; load—1 kva. *Superior Electric Co.*

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Northwestern	98,440	102,667	66,959
Central Western	108,115	110,302	109,200
Southwestern	45,223	47,915	49,203
Total Western Districts	251,778	260,884	225,362
Total All Roads	588,969	594,444	532,259
Commodities:			
Grain and grain products	63,774	64,166	53,619
Livestock	2,933	3,465	4,223
Coal	103,764	102,529	94,208
Coke	6,662	5,674	3,055
Forest Products	39,529	39,749	41,701
Ore	55,664	58,722	12,725
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Gondola	0	106	250
Hopper	0	272	1,488
Cov. Hopper	284	188	671
Refrigerator	0	98	1,433
Tank	273	138	774
Caboose	0	9	191
Other	100	2	209
TOTAL	2,452	1,229	10,644
Car Builders	2,294	759	4,867
Railroad Shops	158	470	5,777

first year, and at $42,206,100 in the 15th year.

will significantly relieve the peak traffic demands which streets and freeways

the challenge of almost overwhelming growth."

Clear Path To RR Health

It is a mistake to believe, as many people seem to, that the difficulties of railroads arise from a multiplicity of causes so complex as to surpass the understanding of anybody but experts. Quite the contrary. There is variety, indeed, in the symptoms of the railroads' illness—but the illness itself is single and simple. It might be called "anti-economics," and consists in the general and detailed violation of the basic precepts of elementary economics in the way transportation is treated. There is not one trouble railroads are encountering which does not have its origin in this single cause.

Economics concerns itself with the provision of useful goods and services at the minimum expenditure of scarce resources (land, labor, fuel, and capital in the form of tools and equipment). Transportation in this country has been invaded and practically taken over by a regime which makes no effort at all to conserve land, labor, fuel and capital goods. Instead, at a rapidly accelerating pace, transportation tasks are being diverted from methods which conserve resources, and are being transferred to those which waste these resources. Government is the principal offender, by its wholesale invasion of the transportation business, and in its gross partiality in the way it wields its coercive regulatory power—with crushing heaviness in one place and gossamer lightness (or entire absence) in another.

Railroads are widely but inaccurately labeled as a "sick industry." The railroads are not sick—they are being poisoned. And the Borgia who is doing the job on them is kindly, well-meaning old Uncle Sam—who has been shoved into the role of an economic planner on a gigantic scale. This is an assignment at which he has practically no experience, and even less skill and aptitude.

The most effective policeman there is, to enforce the principles of elementary economics (i.e., providing goods and services at minimum total expense), is the *free market*. If government were out of the transportation business completely, transportation jobs would gravitate naturally through price and service competition to the channels of lowest total cost. If highways and waterways were privately financed and taxed exactly the way railroads are—and supported entirely by payments from users—there would result automatically a division of the nation's traffic on a basis of lowest total costs.

But government has done everything it conceivably could to make railroad transportation appear more costly than it actually is (i.e., by discriminatory financing and taxation and Jim Crow regulation, applied to railroads but not to most of their rivals). At the same time, government has poured billions of public funds into other forms of transportation, leaving railroads to their own devices for securing capital. Investors are not going to put their money on a horse when they can clearly see that the fellow who is riding him doesn't intend to let him win.

And so railroads, potentially and inherently healthy, are being done in—not by economics, but by anti-economics. The best corrective would be to get the government out of the transportation business—to sell the waterways and long-haul highways to private enterprise; and to impose regulation and taxation on all forms of transportation on a basis of complete equality. This ideal solution is politically impracticable for the short run (i.e., in time to prevent bankruptcy and possibly, even, the abandonment of essential railroads). The alternative, then, is to establish competition between government-owned transportation plant (highways, waterways, airways) and privately-owned transportation plant (railroads) on a basis as nearly equal as possible, by the most likely means at hand. Complete equality of regulation could be easily achieved by act of Congress. Near equality of taxation could come quickly by exempting railroad property from all state and local taxes (as highways and waterways are exempt).

There isn't space here to spell out the details of public policy which would restore the supremacy of economic precepts as the controlling force in the transportation industry. It would be an effective first step to recognize that it is "anti-economics"—and not some complex variety of mysterious maladies—that afflicts railroads.

Railroads can tell their whole story honestly and effectively to intelligent citizens—in terms of what's economic and what's anti-economic; and anyone who has been exposed to an elementary economics course should be able to understand, and to agree.

PRACTICING DRAMATIZES PREACHING

If railroads are to march beneath the banner of economic precepts—and they have no choice if their present disabilities are to be corrected—then it would be helpful if they would strictly and conspicuously obey these precepts themselves. This is what they are doing in endeavoring to mitigate wasteful working rules. But wouldn't it be a mighty good idea to have all railroad practices gone over systematically—to eliminate all of them that are anti-economic?

The objective of "going economic" on an all-out basis, as regards transportation, would be to correct all the troubles that confront the railroads. It is never a hindrance in "selling" an idea to present it in the simplest and most dramatic terms that are compatible with accuracy; and the approach of economics is as honest as it is simple.

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Los Angeles May Revive Rail

► **The Story at a Glance: Los Angeles is moving—slowly, to be sure—toward rebuilding the network of rapid transit lines the city once had and lost.**

For $192,000,000, the sprawling West Coast metropolis can, as the chairman of its transit authority puts it, get "on the track of progress" with a 22.7-mile first-phase route operating from West Los Angeles through the downtown area to El Monte on the east. The Los Angeles Metropolitan Transit Authority is confident this so-called "backbone" line could pay for itself out of revenues. Still, financing seems to be the major problem as yet unsolved. A number of possibilities—among them, federal assistance—are being explored.

Just a few months after the remnants of the once-great Pacific Electric commuter system were swept away, Los Angeles is buckling down to the gigantic task of starting anew on rail rapid transit. When PE operated, private enterprise handled the job. But Los Angeles cast its lot with the freeway, and as concrete ribbons bored into the hinterland, PE suffered and died. Now Los Angeles has decided rail transit has a future—and whatever system develops must meet the same economic test PE had: it must be self-supporting.

Just recently, California Senator Clair Engle introduced a bill to authorize a $500-million federal loan program to assist transit authorities in development of new mass transportation systems. Long-term, low-interest rate loans would be made through the Housing and Home Finance Agency. In order to qualify for a loan, a transit organization would be required to show sound financial structure and would have to show that needed funds could be obtained from another source on comparable terms. Where loans are made for underground transit systems, the local agency would have to make its facility available for civil defense purposes—a by-product use which the Los Angeles authority is already talking up as it may apply to that part of the Los Angeles system which will be built in subway.

Wherever the money comes from, it may be hard getting as things shape up now. Los Angeles transit officers have talked with the southern California delegation in Congress but there's no assurance that federal assistance will develop. And in the meantime, highway-freeway interests are digging in to prevent a feared diversion of gasoline tax funds to help finance a transit system.

One highways official declared recently that Los Angeles County freeways will reach a stage by 1964-65 where traffic will be "noticeably improved"—if state funds are not diverted or curtailed. Current highway-freeway projects include a complex series of links designed to permit heavy trucks to bypass the central area, thus relieving downtown freeway congestion. These links should be in full operation by 1965, the highways official said—but they won't be if funds are cut back.

It probably comes as no news to Angelenos that the traffic situation can bear improvement.

Like most cities with a transit problem, Los Angeles has been studied and studied. Late in the summer of 1960, consultants finally wrapped up their investigation of a multitude of proposed systems and recommended use of rubber-tired trains running on concrete tracks. The "backbone" route plan now being pushed, however, is a far more conventional proposal—calling for use of electrically-powered trains operating on standard gage, rubber-cushioned, continuous welded rail.

Like the rapid transit system planned up the coast in San Francisco, Los Angeles' operation would employ the latest in electronic controls for automatic regulation of train headway and speed to "permit maintenance of a very high standard of service."

Train design, LAMTA says, will permit maximum speeds of 70 mph and schedule speeds of 34 mph, with travel time of about 20 minutes between either end of the line and the central city area. Transit cars would be semi-permanently coupled in units of two and would operate as two-, four- or six-car trains. Each car would have seating capacity for 85 passengers.

(Even this is not a "final' design. Monorail is still in the running, and one plan will be presented to MTA Sept. 6.)

LAMTA plans now call for the system to be built in subway for 12.1 miles of the 22.7 total. From its westernmost station at Century City in West Los Angeles, the line would swing over to Wilshire Boulevard and continue in subway under the street to the central business district. Tracks would come to the surface a mile east of Los Angeles Union Station and would "share the Pacific Electric right-of-way along the San Bernardino Freeway to El Monte."

As LAMTA sees it, "this area—with its great complex of office buildings, commercial establishments and high-rise apartment structures to the west [and with] the continued development of the great Central City and San Gabriel Valley expansion—provides the potential patronage to make the 'backbone' route financially feasible."

Meanwhile, Up in San Francisco . . .

Plans to alter the Golden Gate Bridge to carry rapid transit trains on a new lower deck (RA, July 31, p. 34) have received a setback. The bridge's chief design engineer says proposed changes in the bridge would make it "substandard and structurally uncertain."

C. E. Paine, who helped design and build the great span, studied the proposed $16,500,000 overhaul of the structure and then recommended that rapid transit trains not be permitted to operate over it.

Earlier, however, another top bridge expert, C. H. Gronquist, had told the San Francisco Bay Area Rapid Transit District that use of the structure for train operation would be feasible and practicable.

Possible next move: A proposal that a board of review, including a number of expert bridge engineers, be selected to study and attempt to resolve the sharp differences of engineering opinion expressed by Messrs. Paine and Gronquist.

Transit

Current progress toward establishment of a transit system grows out of a cost study made by Kaiser Industries and based on requirements and corridor designations set by MTA. Kaiser estimates that the "backbone" line will cost $192,000,000 to build—and that it could be placed in operation three years after the start of construction.

Los Angeles regards the "backbone" route as the first in a series of transit lines—totaling 150 route miles—radiating from the CBD in four (and perhaps later eight) established travel corridors.

The first-phase line would serve 25 stations—16 in subway and nine at surface level. Two stations would be built in the downtown area and one in the civic center district.

Construction of the subway itself isn't viewed as any particular problem. LAMTA plans to use tunneling (rather than cut-and-cover) methods in order to avoid disrupting pedestrian and vehicular traffic on busy Wilshire Boulevard. The top of the tunnel would be 10 ft under the street at stations and would drop as far as 50 ft from surface level between station points. Station platforms and stairways at or near street curbs would be the only work done from the surface.

East of the downtown district, the line would share railroad right-of-way to the north of and in the median strip of the San Bernardino Freeway (though as yet there's been no agreement with PE—and, apparently, no serious discussions of route planning between MTA and PE officers).

Then there's the matter of who would ride the system after it's built.

LAMTA says it's handled patronage estimates "on a most conservative basis." For the first year of "backbone" operation, the Authority figures it will carry approximately 86,000 passengers daily—28,400 who now ride the MTA bus and streetcar routes and 57,600 who now travel by auto. As for patronage growth, the Authority isn't buying any fantastic figures. For the second year of operation, patronage is estimated to increase 7% and in each of the following years the projected rate averages 3%. Over a 15-year period, this rate would boost traffic by about 12,000 riders.

MTA estimates its total annual revenues (with the "backbone" system in operation) at $53,795,700 in the first year, and at $59,733,300 in the 15th year. System operating expenses are projected at $40,957,900 in the first year, and at $42,206,100 in the 15th year.

The Problem as LAMTA Sees It

"In recent years we have depended upon the private automobile for many of our home to work trips, using our freeways and highways. Public transportation use actually has declined in the face of the population increase.

"The deficiencies of the existing surface mass transit service in speed, dependability and comfort are due principally to the common difficulties with which all street traffic contends and, particularly, the extreme peak demands which are placed on the street and freeway system by rush hour commuter travel. Slow travel through congested areas and periodic major delays resulting from incidents occurring on roads operating at or above effective capacity produce service conditions which do not encourage the commuter to use public transportation. . .

"The only fully effective means of overcoming these deficiencies is the creation of modern rapid transit facilities which are completely separate from other traffic and [which are] capable of providing comfortable and completely dependable service at speeds which will attract riders by choice rather than by necessity alone.

"By the use of trains of economic size, efficient and attractive transportation service can be produced on such a facility in quantity at a unit cost which is effectively competitive with the cost of private vehicle transportation."

From those projections, MTA figures its long-term financing this way: The "backbone" system will cost $192,000,000 to build. Another $40,000,000 loan will be required to retire outstanding revenue bonds, making the total loan to be repaid $232,000,000. Interest at 3% on this total adds $6,960,000 initially, and annual provision for equipment additions and replacements ups the figures by $3,000,000 to $4,000,000. Under this reckoning, MTA could retire its loan in 30 to 35 years.

MTA's approach to the need for transit is of the "there's-a-bright-new-day-ahead" school. A. J. Eyraud, chairman of MTA; and Ernest R. Gerlach, chief engineer, commented recently that construction of the "backbone" route "will bring a new era of rapid, safe, comfortable transportation to a considerable number of people for commuting, for shopping and business trips and for recreational travel. Beyond the obvious benefits to these users of the service, however, we are confident that the public as a whole will realize advantages which will prove rapid transit to be one of the major assets of the metropolitan community.

"Use of the service by commuters will significantly relieve the peak traffic demands which streets and freeways will be called upon to handle. For the many who will still be using their automobiles for rush hour travel, this should provide a measure of relief from traffic congestion and delay.

"The availability of efficient and attractive rapid transit service should result in reduced requirements for parking facilities in commercial areas. This will permit fuller development of land and, in fact, the improved access for employees and business visitors will encourage a much higher level of development. The new growth will accommodate the increased volume of business activity demanded by the growth of the area and will increase the tax resources of the community.

"In effect, the 'backbone' line should demonstrate that the existence of a basic rapid transit system, providing the assurance of efficient, attractive, high-capacity transportation service on a long-term basis, will furnish the complement to our extensive street and freeway system which will permit the development here of a metropolis which will meet the needs of—and fulfill the promises of—a dynamic area whose problem is not one of maintaining its present position but of meeting the challenge of almost overwhelming growth."

Hoffa No 'Threat' to Rail Unions

Railroad unions aren't worried by mes R. Hoffa's announced intention organizing the transportation indus- says George Harrison, president of Brotherhood of Railway Clerks.

I have heard in the last 40 years of ny efforts on the part of other unions organize railroad employees, and we 't regard Mr. Hoffa's announced gram as any threat," Mr. Harrison a nation-wide radio audience dur- an appearance on Mutual's "Labor vs Conference" Aug. 13.

We think we run the finest unions the United States. We give the in- dual employee job security and we k after his individual needs. Our ons are old, established, well-man- d unions free from any suspicion taint or corruption. We think we e a good product to offer the work- n the way of services, and we don't ard the International Brotherhood of amsters as any competitor of our road unions."

Mr. Harrison, in reply to a question, o ruled out the possibility of any d of "working arrangement" be- en railroad unions and Mr. Hoffa's amsters.

Other points made by Mr. Harrison:

- Subsidies—"It's my opinion that local municipal authorities, with the aid of the state and perhaps with some aid from the federal government, could maintain adequate commuter service. I don't think it can be done under private enterprise because the public seems to exercise pressure on our regulatory authorities which prevents them from establishing rates that will be compensatory for the commuter service."
- Nationalization—"We prefer as trade unions and railroad workers to deal with private owners of the industry, rather than dealing with government bureaucrats . . ."
- Railroad mergers—"I think perhaps there may be a few railroad consolidations that might be in the public interest. But the proposed consolidations that we now know about are programs for the good railroads—those financially strong railroads—to acquire ownership and control of other financially strong railroads. That . . . will aggravate our present railroad situation, because it will make the problems confronting railroads that are in financial difficulties more serious."
- Integrated transport—"There may be some merit to permitting railroads to go into certain other modes of transport [but] we certainly don't want to establish . . . a total monopoly of transportation in the hands of any single industry."

L&N STUDIES MERGER WITH C&EI (*Continued from page 8*)

to be included in any merger resulting from C&O's bid to acquire control of B&O. Before this, C&EI was linked with a Monon merger bid and with a proposed Katy-CGW combine.

Mr. Mathews claims that C&EI "is not opposed to the principle of railroad mergers but it is our firm belief that the public interest requires consideration be given to the effect upon small independent railroads, which cannot successfully compete with the powerful combinations that have been outlined.

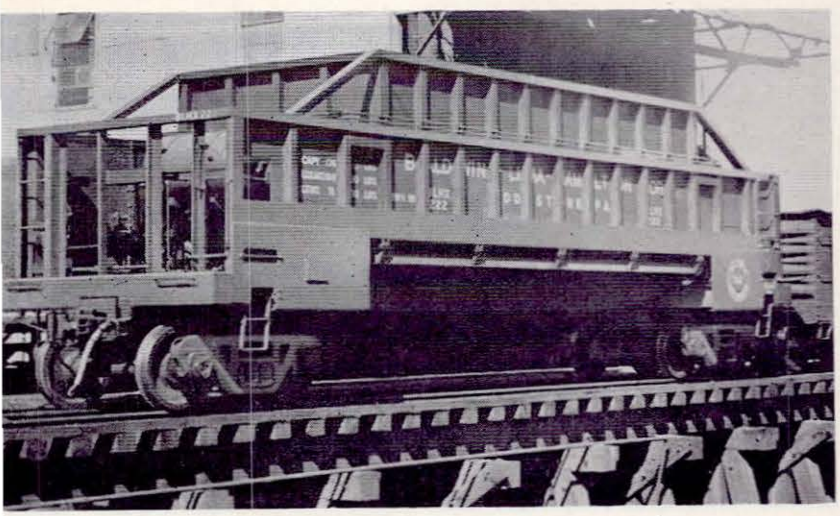
"Unless we strongly assert our interest, these combinations would definitely push the C&EI and many other small carriers out of business."

Even while C&EI was asking to be dealt in on the C&O-B&O picture it was actively considering a proposal to merge with Missouri Pacific. MP-C&EI merger studies began in July 1959 and ended 18 months later when C&EI finally turned thumbs down on MP's proposal. MP had offered one share of its Class A stock in exchange of four shares of C&EI common and one share of MP Class A for 1.6 shares of C&EI Class A. C&EI directors expressed doubt that MP could come up with the required amount of stock to make the exchange and, more importantly, resisted terms of the offer which would have required modification of contingent interest bond indentures.

Mr. Mathews says there has been "no action whatever" on the part of MP to reopen these merger talks. But the situation could change now that MP holds a 14% voting interest in C&EI.

In the meantime, Missouri Pacific claims to be studying the advantages of an IC-MP partnership. MP says its purchase of C&EI securities "will have no effect on the merger studies now being conducted with the Illinois Central Railroad."

Completing the current round-robin possibility in the Midwest is IC's announced interest in gaining control of L&N. IC has asked the Interstate Commerce Commission to permit it to purchase ACL's one-third interest in L&N as a prerequisite to any SAL-ACL consolidation.



New B-L-H Cars Reduce Leakage

Specially designed dump cars have been ordered by Southern Pacific to speed unloading of copper concentrates and substantially eliminate leakage losses in transit. Baldwin-Lima-Hamilton's Industrial Equipment Division, Eddystone, Pa., will build 40 cars at a cost of $882,000. Order follows 15-month trial of the pilot car shown. New cars of 38½-ton light weight will have 86-ton capacity with pneumatically-operated fast-dump bottom doors, 9 ft 2½ in. wide by 21 ft long, equipped with neoprene seals to prevent leakage.

Henry J. Schroeder
C&NW

Edison H. Thomas
L&N

James I. Smith
Reading

A. T. Adams
Dempster

PEOPLE IN THE NEWS

AKRON, CANTON & YOUNGSTOWN.—George C. Heidish, assistant vice president—sales and service, has resigned and that title has been eliminated. **John P. Monks,** former district traffic manager in charge of the New York State, Metropolitan New York and New England sales activities, who was recently promoted to traffic manager—sales and service, has succeeded to Mr. Heidish's duties.

BALTIMORE & OHIO.—William H. Schmidt, Jr., director of public relations, Baltimore, Md., has been assigned the additional duties of passenger traffic manager, with system-wide jurisdiction.

CANADIAN PACIFIC.—W. H. Somerville, special representative, Montreal, appointed assistant superintendent, Laurentian division, at that point succeeding **W. H. Oattes,** retired.

CHICAGO & EASTERN ILLINOIS.—G. K. Green named coal freight agent, Chicago.

CHICAGO & NORTH WESTERN. — Henry J. Schroeder, freight traffic manager—rate research, Chicago, appointed assistant vice president—rates and divisions there, to succeed **Harold A. Gundersen,** who retires Aug. 31.

GULF, MOBILE & OHIO. — Ivan H. Wente, freight traffic manager, Chicago, advanced to the position of assistant vice president there.

INTERSTATE COMMERCE COMMISSION.—Radway R. Gibbs, assistant chief, Section of Rail Tariffs, appointed assistant director, Bureau of Traffic, and chief of the Section of Rates and Informal Cases. Mr. Gibbs succeeds **William B. Hammer,** retired (RA, Aug. 14, p. 33).

LOUISVILLE & NASHVILLE.—Edison H. Thomas, formerly a staff writer for the L. & N. Magazine, appointed news bureau manager in the public relations department, Louisville, Ky.

REA EXPRESS.—Mrs. Peter W. Stratenwerth, secretary to the senior vice president and office manager, Executive Department, appointed assistant secretary of the corporation at New York.

READING. — James I. Smith, division freight agent, Philadelphia, Pa., named western freight traffic manager, Chicago, succeeding **Harold E. Pauli,** appointed general agent at Detroit. **William E. Fassitt,** division freight agent, Allentown, Pa., transferred to Philadelphia, succeeding Mr. Smith. **William A. Gehl,** general agent, Wilmington, Del., named division freight agent, Allentown. **John R. Rose,** traveling freight agent, St. Louis, Mo., succeeds Mr. Gehl.

SEABOARD.—F. E. Wilson, assistant general freight agent, Tampa, Fla., appointed assistant freight traffic manager, Savannah, Ga., succeeding **J. F. Rivers,** retired (RA, Aug. 7, p. 32). **P. B. Leggett,** assistant general freight agent, Columbus, Ga., succeeds Mr. Wilson. **H. S. Coltrain,** assistant to freight traffic manager, Richmond, Va. promoted to assistant freight traffic manager, Miami, Fla., succeeding **C. J. Mundee,** transferred to the newly created position of assistant freight traffic manager, Columbus. **E. L. Hobbs,** division freight agent, Birmingham, Ala., appointed assistant freight traffic manager there, succeeding **W. A. Reese,** retired. **F. R. Edwards, Jr.,** appointed general agent, Chattanooga, Tenn., succeeding **Jerry Smith,** who replaces Mr. Hobbs.

TEXAS & PACIFIC.—Robert W. Gaines, regional manager—freight sales, Chicago, appointed central general sales manager there. **Louis P. Vinet,** supervisor—freight sales, Dallas, Tex., appointed southwestern general sales manager at that point.

TRAFFIC EXECUTIVE ASSOCIATION—EASTERN RAILROADS.—Orland E. Schultz, vice chairman, at One Park Avenue, New York, has been elected chairman, effective Sept. 1, succeeding **Edgar V. Hill,** who is retiring at his own request after 40 years of railroad service. **Charles S. Baxter,** chairman at Chicago of the Central Territory Railroads—an affiliate of the Eastern Railroads' TEA, has been elected chairman, General Freight Traffic Committee—Eastern Railroads.

WABASH.—D. H. Bergmann, secretary and chief clerk to vice president-traffic, St. Louis, named supervisor stations-trailer on flat car, replacing **R. P. Sadler,** named supervisor traffic, Kansas City, Mo.

W. A. Rudy, chief clerk to manager trailer train service, appointed assistant supervisor schedules and equipment, replacing **G. E. Paul,** named supervisor schedules and equipment. **Richard G. Royce,** chief clerk and representative freight department, Minneapolis, appointed sales representative there, to succeed **Arthur L. Klein,** transferred to Kansas City.

Supply Trade

Dempster Brothers, Inc., Knoxville, Tenn., has announced the creation of a new Containerization Division, which will be concerned with the development and fabrication of specialized containerization equipment for use in the transportation industry. **A. T. Adams,** former project director and West Coast regional engineer, Production Development Division, Reynolds Metals, will head up the new Dempster division.

The following have been appointed railway field sales engineers for **SKF Industries:** At Chicago, **G. M. Goodloe** and **R. G. Moore;** at Philadelphia, **R. A. Harwick;** and at New York, **W. H. Mowers.**

The sales responsibility for railroad journal bearings will be transferred from SKF's regional sales offices to the enlarged railway sales department.

Bird Tie Pads, Inc., P.O. Box 909, Taunton, Mass., has appointed **C. C. Turner, Western States Supply Co.,** 1517 Harney Street, Omaha, Neb., as representative, handling Bird Self-sealing tie pads.

Holden Co. Ltd., Montreal, Que., has been named exclusive Canadian representative for **Railway Maintenance Corp. R. S. Wilson,** vice president, Railway division, will handle the Railway Maintenance line of equipment for Holden.

V. R. Jury has been appointed manager, Transmission sales, **Graybar Electric Co.,** at Chicago. Mr. Jury was formerly with Graybar's Dallas, Tex., office.

Sheldon K. Howard has been named director of marketing, Beloit (Wis.) Group of **Fairbanks, Morse & Co.**

Russell B. Miller has been appointed general sales manager, **Chicago Pneumatic Tool Co.,** New York. Mr. Miller was formerly manager, Atlantic district.

Mid-West Forging & Mfg. Co. has announced the appointment of **R. A. Corley** as eastern representative for the sale of the Improved Gautier Rail Anchor.

Thomas B. Eastland, Jr., has been elected president of **U.S. Infrared Corp.,** which was organized in 1960 to engage in the research, development and manufacture of infrared devices for commercial and industrial use. The corporate and operational structure has been realigned to meet the demands of expanded research and marketing programs. The laboratories and manufacturing plant are located in Alexandria, Va. During the first year of its existence, the company developed and sold to the Swedish National Railroad hand-held infrared radiometers for use in detecting overheated railroad car journals. It also has completed development and has in prototype a lightweight device which will permit diesel engineers to obtain a quick check on the difference in exhaust manifold temperatures to determine the location of combustion losses.

OBITUARY

Basil G. Murrell, 37, general agent, **Chicago & North Western,** Chicago, died Aug. 7 at his home in Palatine, Ill.

You Ought To Know...

Lower fuel prices brought the AAR's latest quarterly index down to 143.5. That July figure halted an uptrend which had been under way for a year. With fuel prices excluded, however, the uptrend continued. The July index on that basis was 159.8, compared to April's 159.6. The April-to-July drop in the fuel-price index was 6.2 points—from 119.6 to 113.4. The indexes are based on mid-year spot prices of the 1947-49 period as 100.

To recover traffic now being trucked to the New York metropolitan area, the Reading has filed a reduced rate on cement from Evansville, Pa., to Jersey City, N. J.—9½ cents per 100 lb on single-shipment minimums of eight carloads in bulk or five carloads in bags.

A "further intensive study" of passenger operations has been ordered by Baltimore & Ohio in an effort to stem "growing deficits." The study will be directed by William H. Schmidt, Jr., B&O director of public relations, who has been assigned the additional duties of passenger traffic manager.

Twelfth annual National Transportation Award of the National Defense Transportation Association will go to Morris Forgash, chairman of the board and president of the United States Freight Company. Mr. Forgash will receive the award at the association's 16th annual Transportation and Logistics Forum in Denver, Sept. 17-20.

Redevelopment of Chicago, Aurora & Elgin properties may begin in the near future. CA&E, which recently won permission to abandon all rail services, has named L. J. Sheridan & Co., as exclusive real estate agent as a first step toward developing or disposing of railroad properties.

Railway Progress Institute and Railway Systems and Management Association will bring together those responsible for the management function in the railway supply industry with their railroad counterparts in a two-day research-study-information Seminar on Management Development at the Hotel Knickerbocker in Chicago, November 1 and 2. Dr. Herman Limberg, Senior Management Consultant and Director of Management Reporting in the Division of Administration, Office of the Mayor of the City of New York, will serve as chairman of the joint seminar.

One passenger fatality in a train-service accident was reported by railroads in June. Ninety-seven passengers were injured in train-service accidents. Nineteen employees on duty were killed and 1,580 injured.

Radioactivity shows metal particle transfer from bearing roller to race, how much, and under what conditions, according to research men of SKF Industries, Inc. Expected benefits are added bearing life by insuring correct pressure distribution, determining best lubricant for specific conditions, and technique's usefulness in study of surface finishes.

Chief hope for the railroads is mergers, according to a survey of security analysts taken by Opinion Research Corp. Further development of new transportation methods, such as TOFC, was also seen as needed to provide the railroads with the flexibility to compete successfully for long-haul traffic.

A baggage transfer service has been arranged in West Germany between the German Federal Railroad and Lufthansa German Airlines. The service offers baggage pickup or delivery for airline passengers to or from any rail point within a 125-mile radius of the Cologne/Bonn Airport.

Feasibility of monorail lines between Tel Aviv and Jerusalem, Sodom and Elath, and Beersheba and Ashdod is being studied by the Israel Planning & Development Co. in Tel Aviv.

A new company, Minerals Development Corp., a joint undertaking of the N&W, the Roanoke Electric Steel Corp., and E. L. Keesling, of Bramwell, W. Va., has been formed to develop iron ore deposits in southwest Virginia. First step will be the drilling of some 20 core holes in iron bearing sandstone in Giles and Bland Counties.

Food-transportation costs (rail and highway) came to approximately $4.1 billion in 1960—no change from the previous year, according to the Department of Agriculture. Selective rail rate reductions more than offset rate increases, said USDA.

Some of the nation's top transportation executives, economists, legal authorities and government officials will take part in a two-day conference, "Transportation Mergers and Acquisitions," at the Transportation Center at Northwestern University, Evanston, Ill., Aug. 28 and 29.

Freight Claims Division, AAR, will hold its 1962 annual meeting at the Benjamin Franklin Hotel in Philadelphia, May 15-17.

C&O to Pay Dividend

Chesapeake & Ohio announced last week that it will pay its regular third-quarter dividend of $1 Sept. 20, distributing $8.2 million to 92,000 owners of C&O common shares. The announcement laid to rest rumors circulating in Wall Street that the dividend would be passed.

C&O noted that it has paid a regular dividend of $4 a year for "over four years," adding that "earnings have been substantially in excess of dividends and a strong working capital position has been built up. Thus, even though C&O earnings for the first half of 1961 fell short of dividend payments, the dividend was amply protected."

Meanwhile, C&O is optimistic for the future: "For the second half of the year the nation's economy and C&O earnings show definite evidence of improvement."

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American Steel Foundries 20, 21
Budd Company, The 26, 27
Classified Advertisements 37
Clevite Corporation ..... BC
Hunt Company, Robert W. 37
Hyatt Bearings Div., General Motors Corp. 4
International Railway Car Division 11
Miner, Inc., W. H. 3
Ortlip Co., Harry F. 28
Railway Educational Bureau 25
Simmons-Boardman Publishing Corporation 6, 37
Texaco, Inc. 13, 14, 15
Unity Railway Supply Co. Inc. ..... IBC
Weiss Company, B. M. 37

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The author was for some time manager of the Canadian National Railway Personnel Section at Montreal and there devised a management training program which attracted particularly wide and favorable comment. Mr. Daffern is presently associated with a prominent management consulting firm. His special knowledge of the training problems of the railroads makes this volume of unique value to transportation personnel.

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- Is management "Know Why" or "Know How"?
- Should management training be slanted toward improvement of the individual? or improvement of the job being done?
- How can a performance appraisal procedure be organized?
- Why are some present practices of many industrial managements inadequate to cope with the demands of competition?
- On what basis do *you* select personnel for added responsibilities?
- Two significant actual case studies, what they show, how to benefit from them
- The reasons why management men want to change their jobs
- Performance appraisals among middle management in Railroading

This book has been sponsored by the Railway Progress Institute and was produced under the supervision of the Institute's Committee on Executive Development

Contents: Change. Competition and Bureaucracy. Management of People. Towards Better Management. Management Performance Appraisals. The Evolution of a Performance Appraisal Procedure: The Purpose, The Method, Results. Management Inventory. Conclusion. Appendices. Index.

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Clear Path To RR Health

It is a mistake to believe, as many people seem to, that the difficulties of railroads arise from a multiplicity of causes so complex as to surpass the understanding of anybody but experts. Quite the contrary. There is variety, indeed, in the symptoms of the railroads' illness—but the illness itself is single and simple. It might be called "anti-economics," and consists in the general and detailed violation of the basic precepts of elementary economics in the way transportation is treated. There is not one trouble railroads are encountering which does not have its origin in this single cause.

Economics concerns itself with the provision of useful goods and services at the minimum expenditure of scarce resources (land, labor, fuel, and capital in the form of tools and equipment). Transportation in this country has been invaded and practically taken over by a regime which makes no effort at all to conserve land, labor, fuel and capital goods. Instead, at a rapidly accelerating pace, transportation tasks are being diverted from methods which conserve resources, and are being transferred to those which waste these resources. Government is the principal offender, by its wholesale invasion of the transportation business, and in its gross partiality in the way it wields its coercive regulatory power—with crushing heaviness in one place and gossamer lightness (or entire absence) in another.

Railroads are widely but inaccurately labeled as a "sick industry." The railroads are not sick—they are being poisoned. And the Borgia who is doing the job on them is kindly, well-meaning old Uncle Sam—who has been shoved into the role of an economic planner on a gigantic scale. This is an assignment at which he has practically no experience, and even less skill and aptitude.

The most effective policeman there is, to enforce the principles of elementary economics (i.e., providing goods and services at minimum total expense), is the *free market*. If government were out of the transportation business completely, transportation jobs would gravitate naturally through price and service competition to the channels of lowest total cost. If highways and waterways were privately financed and taxed exactly the way railroads are—and supported entirely by payments from users—there would result automatically a division of the nation's traffic on a basis of lowest total costs.

But government has done everything it conceivably could to make railroad transportation appear more costly than it actually is (i.e., by discriminatory financing and taxation and Jim Crow regulation, applied to railroads but not to most of their rivals). At the same time, government has poured billions of public funds into other forms of transportation, leaving railroads to their own devices for securing capital. Investors are not going to put their money on a horse when they can clearly see that the fellow who is riding him doesn't intend to let him win.

And so railroads, potentially and inherently healthy, are being done in—not by economics, but by anti-economics. The best corrective would be to get the government out of the transportation business—to sell the waterways and long-haul highways to private enterprise; and to impose regulation and taxation on all forms of transportation on a basis of complete equality. This ideal solution is politically impracticable for the short run (i.e., in time to prevent bankruptcy and possibly, even, the abandonment of essential railroads). The alternative, then, is to establish competition between government-owned transportation plant (highways, waterways, airways) and privately-owned transportation plant (railroads) on a basis as nearly equal as possible, by the most likely means at hand. Complete equality of regulation could be easily achieved by act of Congress. Near equality of taxation could come quickly by exempting railroad property from all state and local taxes (as highways and waterways are exempt).

There isn't space here to spell out the details of public policy which would restore the supremacy of economic precepts as the controlling force in the transportation industry. It would be an effective first step to recognize that it is "anti-economics"—and not some complex variety of mysterious maladies—that afflicts railroads.

Railroads can tell their whole story honestly and effectively to intelligent citizens—in terms of what's economic and what's anti-economic; and anyone who has been exposed to an elementary economics course should be able to understand, and to agree.

PRACTICING DRAMATIZES PREACHING

If railroads are to march beneath the banner of economic precepts—and they have no choice if their present disabilities are to be corrected—then it would be helpful if they would strictly and conspicuously obey these precepts themselves. This is what they are doing in endeavoring to mitigate wasteful working rules. But wouldn't it be a mighty good idea to have all railroad practices gone over systematically—to eliminate all of them that are anti-economic?

The objective of "going economic" on an all-out basis, as regards transportation, would be to correct all the troubles that confront the railroads. It is never a hindrance in "selling" an idea to present it in the simplest and most dramatic terms that are compatible with accuracy; and the approach of economics is as honest as it is simple.

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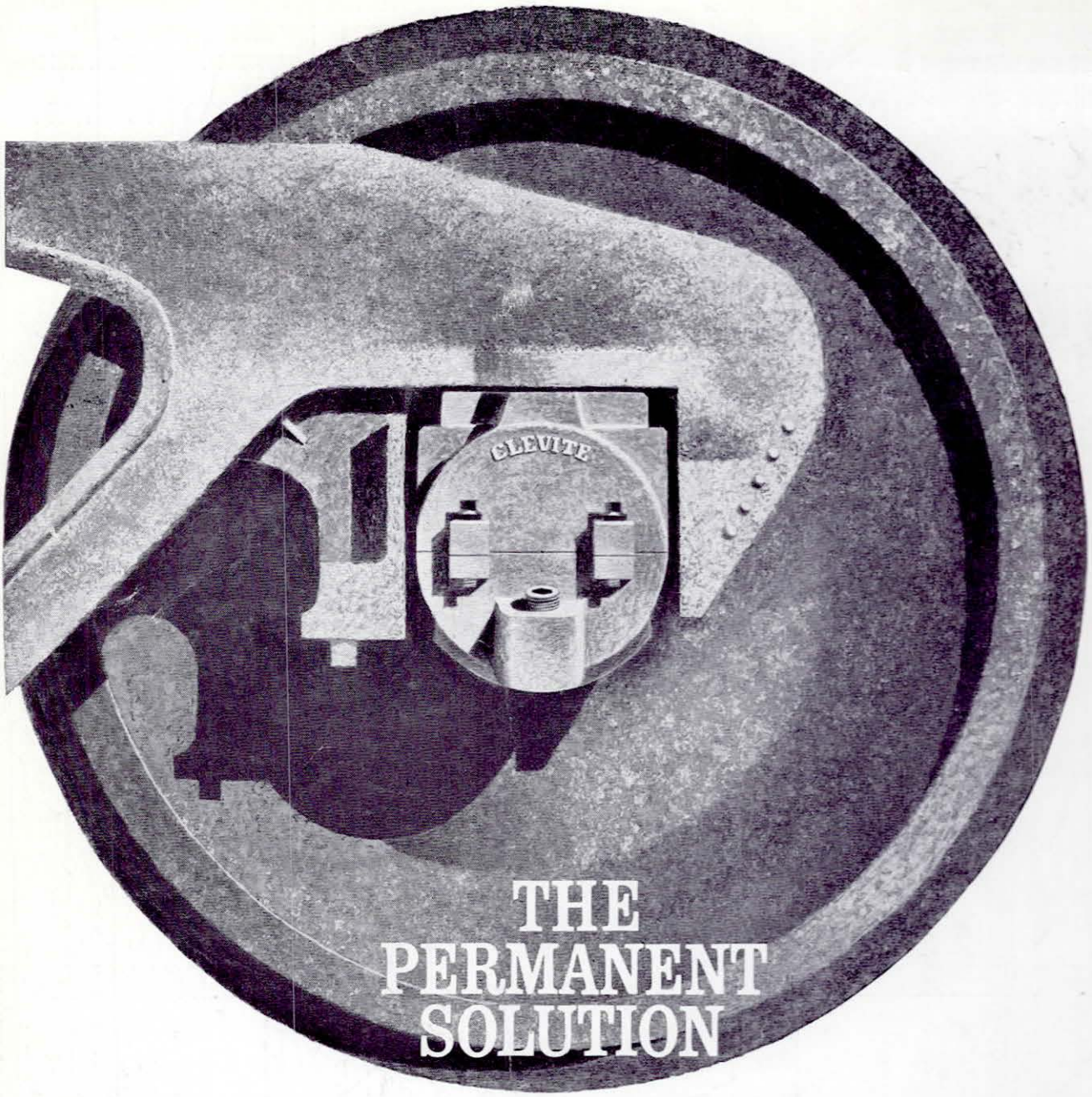

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